

THE AMERICAN HOUSE TODAY

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THE AMERICAN HOUSE TODAY

85 notable examples

selected and evaluated

by KATHERINE MORROW FORD

and THOMAS H. CREIGHTON

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CONTENTS

	INTRODUCTION	2
CHAPTER 1.	THE PROGRAM	
	Introduction	6
	Houses for Various Family Sizes (9 houses)	8- 28
	Special Requirements (8 houses)	29- 51
	Vacation Houses (4 houses)	52- 61
	Subdivision Houses (6 houses)	62- 77
CHAPTER 2.	THE SITE	
	Introduction	78
	Houses and Their Sites (10 houses)	80-108
CHAPTER 3.	SPACE ORGANIZATION	
	Introduction	109
	Space Relationships (9 houses)	111-133
	Expansion (2 houses)	134-138
	Indoor-Outdoor Relationships (4 houses)	139-151
CHAPTER 4.	ENVIRONMENTAL INFLUENCE	
	Introduction	152
	Use of the Natural Environment (9 houses)	154-178
	Control of the Environment (3 houses)	179-183
CHAPTER 5.	CONSTRUCTION AND MATERIALS	
	Introduction	184
	Construction Methods (5 houses)	186-198
	Use of Materials (4 houses)	199-205
	Prefabrication (3 houses)	206-207
CHAPTER 6.	APPEARANCE	
	Introduction	208
	Regions, Theories, and Personalities (9 houses)	210-234
	INDEX	235
	THE PHOTOGRAPHERS	239

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Frank Sharp Company house, Houston, Texas; MacKie and Kamrath, architects; photos, Dorsey & Peters, and Hence Griffith.

THE AMERICAN HOUSE TODAY

INTRODUCTION

"Books on Architecture are already so numerous that adding to their number may be thought to require some apology. . . ."

The American Builder's Companion, or a New System of Architecture, Particularly Adapted to the Present Style of Building in the United States of America; by Asher Benjamin, Architect and Carpenter, and Daniel Raynard, Architect and Stucco Worker; Boston, Etheridge and Bliss; 1806.

The authors of this present book (the authors of the text, that is; the real authors are the architects whose work is illustrated) do not apologize for adding to a literature on architecture which Messrs. Benjamin and Raynard considered excessive in 1806; a quiet revolution has taken place in residential design in the last decade which deserves to be documented rather fully. Revolution, not evolution, because the wrench has been violent, if usually polite. Not entirely a bloodless revolution, either, because a good many architectural heads have fallen in the process and the cries of anguish that still rise from some parts of the profession ring through the crumbling colonades. Briefly, the revolt has done this: it has swept away the need for thinking in static terms of tightly enclosed, inward-looking rooms; and it has substituted the privilege of using free, open, outward-looking space. This has implied both a technical and an emotional readjustment.

The odd thing about this revolution is that it has not been widely or generally understood, despite increasing attention to its results on the part of the consumer press and exclusive concern with its development on the part of the professional journals. The average house-buying or house-building citizen still sees what has happened architecturally only in its watered-down version (the ranch house; the picture window) and in certain clichés and tricks of design that have nothing to do with the broad move that has taken place. Yet, historically, we have gone through a complete phase of design change and are ready for the next development.

Forgetting appearance for the moment, it is a peculiar thing that the American public has remained so generally ignorant of the possibilities that are open in the technology of housing. Study, for instance, the house designed by Raphael Soriano on page 196. Then compare it with the houses that are being built in your own neighborhood. It doesn't matter whether or not you are prepared to accept the new esthetic wholeheartedly; the point is that Soriano's study of construction possibilities merely begins to scratch the surface of what is

within reason today, and yet how many of the hundreds of thousands who will buy or build homes this year know anything about that potentiality? It is as though a public wanting and needing automobiles were shown a model of the latest car and then told, "But you can't have *that*; it's the original 1910 model (with new tires and a beautiful horn, of course) that we're really going to sell you."

We simply want to make the point that the general level of design, the general technical backwardness of construction, the general similarity of the houses being built now with those built in 1940 or even 1920, do not refute the fact that a revolution has been taking place behind the scenes. Although it is still necessary in all but a few communities to hunt through unfamiliar streets to find the good modern house (it has become too easy recently to find the bad imitation modern ones) there are by now several thousand home owners in the United States who have profited from the advances architecture has made in our time. That is not very many when almost a million "housing units" are being built each year, but it is enough to indicate that the contemporary movement is not a transient thing.

There is not an architectural student graduating from school these days who is trained in the traditional mannerisms, and scarcely an architect under forty would happily design a "period" home. It was not difficult to find examples for this book from all parts of the country, and it became necessary, because of space limitations, to give up hope of using many, many other good houses from various regions. This was not true a few years ago; that it is true today is another indication that the revolution has been a successful one. So successful, in fact, that many architects and critics feel that it is now time, not only to consolidate the gains made, but to go on to the next stages of development.

Through this book, under various headings, we shall attempt to explain what those gains have been; what the issues are that have been battled. Before that, it might be well to look briefly at the background of the revolt and try to place it in relation to other events of the time. And at the very beginning of that backward look it is necessary to make once more the oft-repeated point that all good architecture is modern architecture, in its own time—that the standards for good design and good planning remain constant through the ages. Good architecture sits well on its site; that is modern. Good architecture functions well for the people who use it; that is modern. Good architecture makes the best possible use of materials and construction methods that are available; that is modern.

The sociological change that has affected the pattern of family living in our time would have *had* to affect the design of houses, if we were to have a modern architecture of our own at least as good as the modern architecture of earlier ages—and it did. Similarly, the new materials of our time would have *had* to influence construction methods and over-all design unless we wanted to ignore the architectural possibilities—and to a limited extent they have. Thus the architectural revolution of recent years has not thrown overboard the basic principles of design. On the contrary, it has reestablished them, when they were almost lost.

The historical background of mid-twentieth century architecture (and that includes the architecture of houses) is inextricably interwoven with the cultural history, the economic and political history and, most important, the technological history of the nineteenth century. By the end of that century we had harnessed electricity for use in the home, the sanitary plumbing system and the central heating system had been developed, the internal combustion engine was working, an airplane had flown the Atlantic, and an automobile had gone right straight across the country. Engineers had shown that great new designs were possible with steel construction and reinforced concrete construction; abroad, Garnier and Perret and later LeCorbusier were developing new forms in the new materials; in the United States, Louis Sullivan was trying

to find a better solution to the new American building type—the skyscraper—than piling Roman temples on one another, and Frank Lloyd Wright was designing houses that “organically” fitted into the midwest landscape. In painting and sculpture artists were breaking from the classic tradition to play with original primitive art patterns and to break compositions down into color arrangement and form relationships, in a search for the fundamentals of creative expression.

A great deal of this is negative in its character; presumably it was a clearing of the boards for a great surge forward, comparable to the advances in the early Romanesque period, the Gothic of the thirteenth century, and the powerful impetus of Brunelleschi and later Michelangelo when the Renaissance of architecture began in Italy. But in the United States of the twentieth century this did not happen. For various reasons (isolationism, smug self-satisfaction and a verging on imperialism among them, it must be admitted) we continued to build banks in the Roman style, schools in the Tudor style, and houses that were weak imitations of the Colonial houses our forefathers had built or, worse, imitations of earlier Georgian houses from England, Spanish houses from nowhere on this earth, French chateau houses from imported books, and Renaissance palaces from Italy.

We did not even recognize Frank Lloyd Wright in this country until we heard about him from Europe. The strong moves abroad toward industrialization and simplification which culminated in the educational experiment at the Bauhaus in Dessau under Walter Gropius were literally unknown to us until some of the people connected with these movements came to the United States between the two World Wars. It became, ultimately, a pent-up situation where architecture in the United States was bursting with possibilities and there was certain to be an explosion, which came, finally, in the thirties. The result of all the frustrated emotion on the part of the progressive, alert designers was that it came not in any easy way but as a crusade, a revolution, a cause. There developed two camps: the traditionalists who refused to recognize that we had a technology of our own, that we had the philosophical background for an esthetic of our own, that we *could* and *should* have an architecture of our own; and the modernists, who refused to talk to anyone but themselves, who formed almost a cult with a language unto itself. The poor public was obviously and understandably confused.

So it was not until the late thirties and early forties that anything which could be reasonably called a contemporary movement in architecture had developed in the United States. In contrast to the choice of material available for this book, when one of the present authors collaborated on a book about residential architecture in 1940* it was a matter of discovering unrecognized talent, of searching for little-known work. And discovering that not very much worth consideration existed except in a few parts of the country, chiefly on the east and west coasts. However, many architects in other sections of the country were feeling their way toward the new objectives.

Now that the lessons seem to have been learned by almost all of the younger architects and many of the older ones, and now that good contemporary houses exist by the thousands in the United States, it seems time to analyze the path we have trod and to take inventory of and consolidate the advances that have been made. Although it is still possible to buy magazines and books which dismiss “modern” as another style, to be chosen or discarded at will along with Colonial and Ranch House and Cape Cod, no aware person can really doubt that modern architecture in our time, as in any time, is as desirable and inescapable a phenomenon as modern medicine, education, transportation, business administration, or dress.

**The Modern House in America*; James and Katherine Morrow Ford; Architectural Book Publishing Company, Inc., New York, N. Y.

If it is true that any good architecture, recognizing the influences of its own time in history, must be based on those influences as well as the difference between them and the influences of other times, what are the factors we should look for to explain our own present-day residential architecture? They seem to fall into the following categories.

The program: produced by sociological changes. The ways we live are different from the ways people lived in other times, and this perforce alters the premise from which the architects begin designing, and thus affects the ultimate solution.

The site: the relationship to nature, affected by sociological and psychological considerations. From a necessary closeness to natural phenomena and the good earth in the Colonial period, we have gone through an almost cynical neglect of land use. Recently a new strong desire to extend the useable living space to the borders of one's property (and in some instances to develop cooperative use of common property) has been apparent.

Space organization: a three-dimensional translation of the program, in terms of the site; influenced by physical and emotional factors. The Romans turned their rooms in, to an atrium; the Georgians wished a series of stately rooms connected by grand halls. We prefer to turn our houses out to the sun and the land, and we let space merge with and flow into adjacent space. Our technology makes this possible.

The environment: the manner in which we utilize or avoid the natural environment and create our own interior climate; the result of scientific study and the manufacture of equipment. Where earlier peoples learned some aspects of environmental control by trial and error, we have at hand voluminous information based on pure and applied research. Results of this knowledge are beginning to appear and to affect design.

Construction and materials: the technology of the industrialized period in which we live, applied to building methods; in conflict with business, trade union, and even professional traditions which linger in the building industry, so that even elementary standardization of parts has not yet been achieved; unresolved in its effect because of the difficulty of mass-producing as personal a thing as a home.

Esthetics: the visual result of the integration of all other factors; affected by traditional associations as well as changing use-patterns; influenced to some extent by regional backgrounds; complicated by a conflict between a rational scientific attitude and an almost romantic emotional regard for the use of space and materials.

These are the things that should produce today's houses. Once more we turn back to Benjamin and Raynard and their book on architecture published in 1806; this is what they had to say:

"The first thing to do in planning a house, is to know the wants of the person who is to occupy it; the next, to know the situation of the ground it is to cover; then to take into consideration the number, size, and height of the rooms wanted; also, proper and convenient stairs, entries, passages, etc. . . . The eye ought to see, at the same time, every part of the building, and be sure that no one part of it interferes with another; also to see that the rooms are properly lighted . . . Strength, convenience and beauty are the principal things to be attended to."

That seems to us a good enough outline for a book on houses. We begin, then, with a discussion of today's house in relation to "the wants of the person who is to occupy it . . ."

A house is not an abstract object; planning a house cannot be an essay in non-objective design. Houses are for people to live in, and people are very different one from another. It doesn't make a great deal of difference whether a house is designed for a stout person or a thin one, a tall one or a short. It does matter whether it is to be occupied by a bachelor, a childless couple, or a family with boisterous small children. And it is very important, in designing the house, to know how the occupants are going to live—what social pattern their lives will conform to, or perhaps revolt from.

When he begins designing a house, an architect must have a *program*—a statement of the basic needs and desires of the client he is designing for. And when one looks at and judges a house as architecture, there should be some knowledge of what that program was. You can say, "I think that house is beautiful," or, "This house is very unpleasant," only when you know what sort of persons live in the house, and what the special requirements were when it was designed. And if someone is planning to build he can learn from his observation of houses he has seen and his knowledge of how personal requirements may be interpreted and executed by an architect. To take as an example the first house that follows in this book: Philip Johnson's house in Connecticut is one to which people have sharp reactions. Many visitors don't like it—"It's a glass cage; it has no privacy; it doesn't look warm or cozy." But Philip Johnson is a bachelor with a sophisticated taste in all the arts—including the art of living. The house is isolated in a country setting. His guests enjoy the feeling of complete openness to the outdoors, as he does. The house suits him perfectly; it would not satisfy certain other people.

Every thoughtful architect begins his design job by a series of discussions with the client which are almost a psychoanalytical process. *How do you live? What are your interests? Do you read in bed? Do you like to garden? Do you play the piano? Do you entertain? Do you do your own housework?* The program can become extremely explicit. We have recently seen a four-page manuscript submitted by one of his clients to Henry Hill, several of whose houses are in this book, which started off, "Here is a story of how we live . . ." It was a very candid analysis of a way of life, and a most successful house is resulting. Not all programs that an architect can extract from his clients are so revealing. The other extreme, of course, is the house built for sale, in which case the designer of the house, not knowing who the ultimate occupants will be, must devise his own program. It is a problem which will be discussed separately, but it is important to note here that the *general* program is now a very different one from what it was a generation ago, and a radically different one from the "prototype" house of any other period in the history of man's social development. We aren't the same people we used to be, and we don't deserve being pushed into houses that no longer fit our needs.

What are those social needs? This book is not a sociological treatise, and we will not go into detail about the family life of today. (While most individual houses are designed for *families*, the reader will find a number of examples in this book of "bachelor" houses, male or female; this is in itself an indication of social change. In previous times an older person might ultimately have been left alone in the family homestead, but the house designed originally for a single person to live in is a recent phenomenon). Perhaps the strongest influence of the family program on contemporary building is the fact that the home in which one grew up and which one

finally inherited, to live in and in turn to pass on to a later generation, is almost gone. Families scatter now. Travel conveniences, job opportunities, personal inclinations, a general social restlessness, all tend to make family living, in any one house, a comparatively briefer period.

Another reason for this important architectural fact is that we have learned to enjoy and we have the facilities to practice, much more full living at each period of our own lives. Sociologists recognize various phases of a man's life, each with its own aims, desires, ambitions, and needs. The house (even the community) which suits us in our early married years will not be at all appropriate as we become more sure of ourselves and more established in a productive capacity. What is the design answer to all this? If the family with special requirements for whom we design is going to leave its house in a comparatively few years, is there any point in designing to those requirements? There are several answers, aside from the one advanced by a prominent architectural educator: that houses should not be designed for permanence, that each generation should have the privilege of rebuilding all over again, according to its own desires. First of all, even the most specially designed house will, if it goes up for sale, find a new owner with requirements at least approximating the original family's needs. Secondly, architects, recognizing the problem of the program changing as time goes on, have devised various ways to make house plans flexible. Notice for instance, how the Eric Sevareid house designed by Charles Goodman (pages 20 to 21) has been arranged to accommodate itself to children's needs as they grow up. There are many examples in this book of spaces planned for one use during an early period and, with minor changes, another use as the family matures.

If the problem of the moving family and the changing family is a tough one for the house designer, the influence on the program of our mechanical inventiveness is at least as puzzling. First of all it became clear some years ago that family habits were changing as good clothes, good food, entertainment, and services such as laundry and pressing became available outside the home almost as economically as they had formerly been provided in the home. Preparation and work and storage spaces became less important. As the movies and the automobile made distant recreation more appealing than the home-made kind, even spaces for social gatherings seemed less useful than they had been. But then manufacturers began producing fairly inexpensive, easy-to-use clothes-washing and ironing machines, garbage disposers, dish-washers, deep-freeze food-storage units, and finally—the television set. New places to store equipment, and to use it, became necessary in the house plan. The large gathering in the living room (perhaps now to look, rather than to talk) again became a planning requirement. Once more, apparently, flexible planning to care for changing requirements is the logical answer.

What does all this add up to? First, designers have recognized the importance of *designing to a program* — even if it is the broad general program of the "typical" or "average" family's needs. Even the speculative builder's house or the completely prefabricated house must and increasingly does fit the ways people live today — more freely, more informally, more disengaged from unpleasant household tasks than ever before. Today's house, if it is to fit today's needs and try to anticipate some of tomorrow's, must take into consideration the decreasing family size, the increasing dependence on mechanical devices, and yet — something that many home builders are inclined to ignore — the continuing need for social contact, for friendly gatherings, for an intimacy with the soil on which the house is built, and for space large enough to live and breathe in.

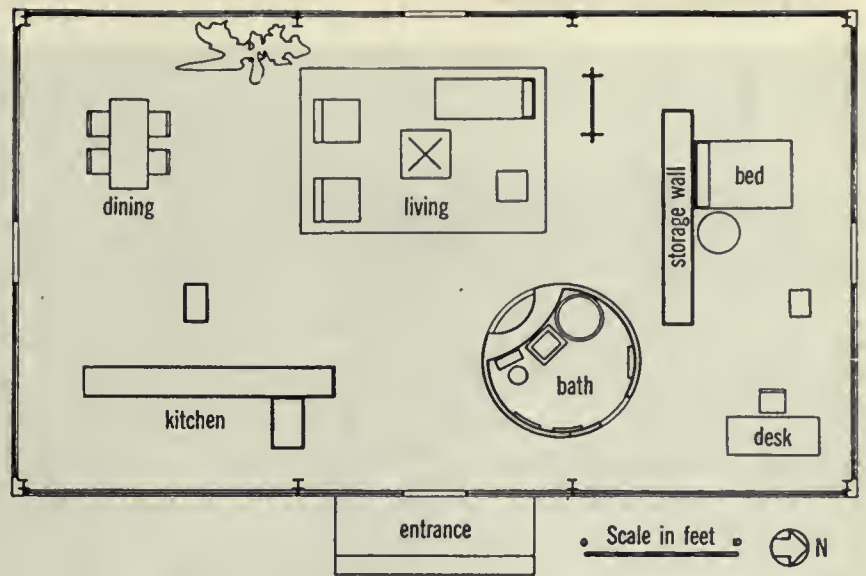
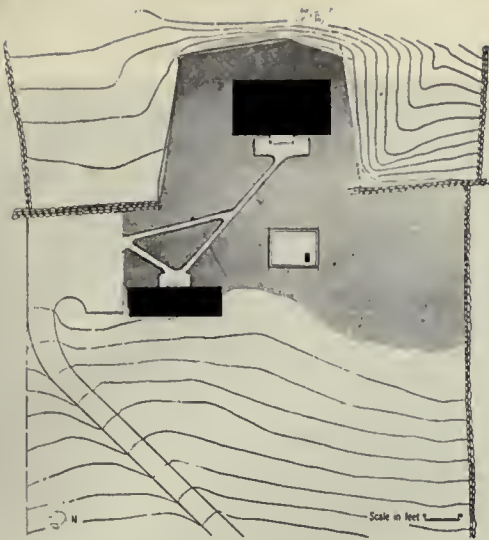
Finally, the lesson of today's rapidly changing civilization, with its restlessness and its occasional discontent, its growing pains as we move from one phase of world history through war and depressions and wonderful inventions and horrible inventions to another phase, is undoubtedly that our architecture must be planned for change. It must be flexible and adaptable, without losing its own character. That is a big order for the house designers.



NEW CANAAN, CONNECTICUT

The glass house which Philip C. Johnson designed for himself has the most simple program possible — open space for a bachelor who likes to live in close relationship with nature. It is a rectangle defined by all-glass walls which are framed with delicately scaled steel members. Although it is consciously subdivided into areas for conversation, dining, and sleeping, the division is accomplished by cabinets and cupboards, by the location of a piece of sculpture and a painting, and by the placement of furniture. Thus the house is really one large room, with a circular brick core, ten feet in diameter, containing the bathroom and the fireplace. Over-night guests are taken care of in a separate brick structure. This is as near to living outdoors as one can come. The glass walls keep out the rain and the cold, and at the same time make it possible for the house to be fully exposed to the surrounding natural landscape. Although Mr. Johnson says he has no interest in artificial control of environment ("I don't believe in it; I like my environment," he says) the house is radiant heated with coils in floor and ceiling. This solution to the bachelor-house program is admittedly a highly personal one. The rigid allocation of functions, the unchangeable placement of furniture, and above all the selection of the objects, of furniture and of art, which give the glass cube its character, all reflect the interests and the individual taste of the owner-designer.





PHILIP C. JOHNSON, DESIGNER



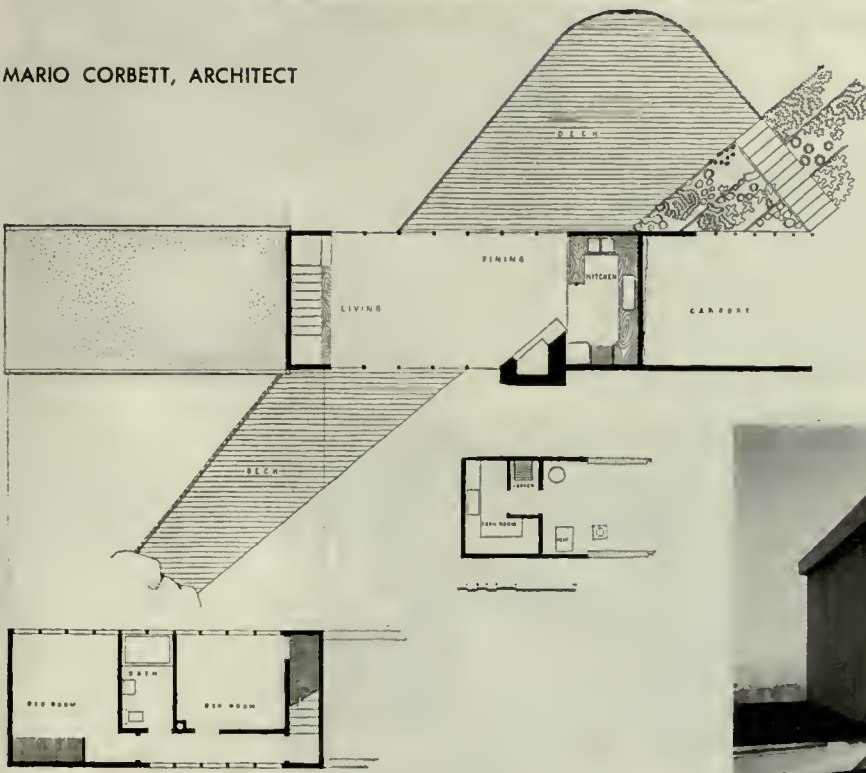


Nestled into a rock ledge on a high point overlooking San Francisco Bay and the Golden Gate, this house was also designed for a bachelor whose major requirements were casual living and informal entertaining. The three levels are stepped down the ridge to afford protection from gales and fogs; two bedrooms are at the middle level and completely private from entertainment and callers at the top level, which contains the main living area and compact kitchen. A dark room and heater room are at the lowest level. Storage space over the kitchen has access from the carport. The owner, William Crocker, so enjoyed the rugged beauty of the site that he avoided any landscaping and kept the natural setting of outcropping rocks and wild grasses. An open deck extends the apparent size of the living room by winging out toward a spectacular view of the Bay and the beauty of the countryside. The generous size of the living-dining room is further expanded by floor-to-ceiling window walls opening to the northeast and southwest. These walls are weatherstripped against cold infiltration while the overhangs are at a minimum so as to capture all possible sunlight. Exterior is of California redwood. All floors are bleached oak, except the bath and kitchen which are rubber tile.





MARIO CORBETT, ARCHITECT





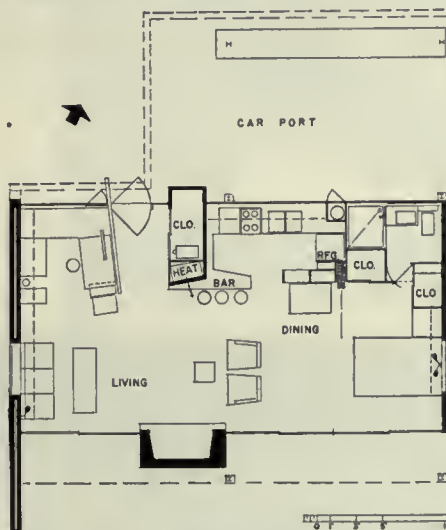
Well-equipped kitchen is partially screened from dining area for ease in entertaining.

View side of house adopts itself to the rugged natural landscape and rocky ledge.



OKLAHOMA CITY, OKLAHOMA

Designed for professional occupations as well as for living for a couple, Mr. and Mrs. Paul Chapman, Jr., this tiny house was a difficult challenge to the architects. The program was based on an initial requirement of 600 square feet (exclusive of the carport) to be designed as a workable studio-living area. The problem was to plan a small space to be used dually for work (the husband is an advertising executive and writer; the wife is a commercial artist) and for family life and entertaining. At the same time it was essential to retain some circulation control, to provide north light for the studio and ample natural light. The solution arrived at was possible because the house is for adult use; no children were involved in the planning. Within this simple rectangular plan partial partitions or cabinets are used to separate living, sleeping, work, and meal preparation. Because of the limited budget, the space requirements were carefully laid out around existing furniture, which the owners plan to replace with lighter pieces which will give a freer space concept. The house was oriented to the southeast, with a sun control overhang, to take advantage of the good view in that direction and to make use, in relation to the house, of the existing trees. Cross ventilation was provided for all spaces. The structure is a skeleton steel frame, with masonry walls.



ROBERT W. VAHLBERG
(VAHLBERG, PALMER, VAHLBERG)
ARCHITECT



SAN RAFAEL, CALIFORNIA

This house again shows that planning for adults makes possible some space arrangements which would be very difficult if small children were involved. The home of Dr. and Mrs. Alexander Ker is designed for simple, easy living. The result appears to be informal — almost casual — and yet every aspect of the plan is carefully thought out. For instance, one enters directly into the living room and from this point reaches other parts of the house; yet the furniture arrangement is such that the pleasant sitting area shown in the lower picture across page is not interrupted by traffic either to the bedroom or the dining room. Careful attention has been paid the lighting of the house. At the juncture of entrance and living room a "light shelf" in the form of a dropped ceiling continues across the living room-dining room opening; a spot light atop the dining room cabinet is adjustable for many uses; another light shelf runs the length of the north wall above the storage units. The approach is from the east side of the house, along a covered walk from the car shelter, which is screened from the outdoor use of the site on the south side. By extending the garage roof and continuing it as a protection for this walk, a virtue has been made of the closeness of the hillside. Roof members tie into the hill, and planting

in a raised flower bed acts subtly as a guard against erosion of the bluff. Particularly pleasant is the development of outdoor space in such a way that each room in the house has its corresponding area outside: the living room and the adjoining guest bedroom-study share a terrace which is sheltered by a vine-covered trellis (leafy in the summer as a protection against hot sun, bare of leafage in the winter to let the warm solar rays penetrate); the master bedroom opens to its own enclosed garden; the kitchen and shop make use of a service yard which is thoroughly separated from other parts of the site. As the photograph of the covered walk shows, the long, narrow site borders a bluff, making it logical to close this aspect of the house except for clerestory windows, and to use it as a long storage wall. Thus the interior plan as well as the shape of the house itself were a result of studying the possibilities and the limitations of the site. As one might suspect from a study of the plan, both Dr. and Mrs. Ker are interested in gardening. Particular attention has been given to the problem of outdoor storage of garden furniture and the need for a garden work space or potting shed. The house is so completely fitted to its site that it sits comfortably as well as beautifully on the hillside.





Covered Walk.



FRED LANGHORST, ARCHITECT

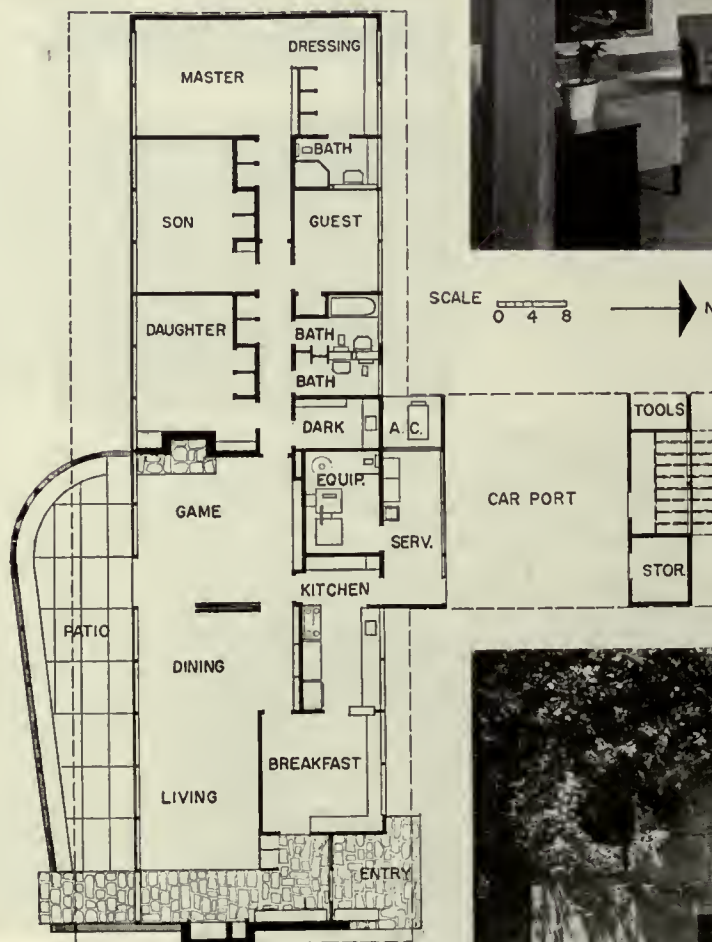


Living Room to Dining Room.



SHREVEPORT, LOUISIANA

Children and hobbies were major influences in the planning of this house for Dr. and Mrs. D. M. Davidson. In addition to the usual living and sleeping quarters, a dark room and a green house were included for the family hobbies — photography and plant culture. Family requirements produced a game room, adjacent to the living room, which may be used by the nine-year old son and the ten-year old daughter as a playroom. Although there is a dining area in the living room, a separate breakfast room opens directly into the kitchen and is often used for family meals. It is without a door for the convenience of Mrs. Davidson who does most of the cooking. The house was placed at a slight angle to the street in order to capitalize on the view to the south, which is also the best orientation in this region. An eight-foot overhang projects over the entire south wall to reduce the sun load in summer. The house is completely air-conditioned for summer and winter comfort. The heating and cooling systems have been so arranged that one unit supplies living-dining room, breakfast and game rooms, and kitchen; and the other unit supplies the bedroom section. The two systems were used for greater flexibility and operate independently, but can be used together. Exterior has solid Roman brick walls in some portions, vertical wood siding in others.



WILLIAM B. WIENER, ARCHITECT



COLORADO SPRINGS, COLORADO



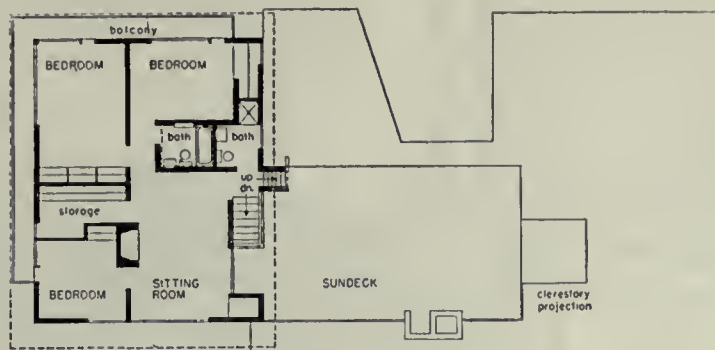
COLORADO SPRINGS, *continued*

In designing this house for himself and his family, Mr. Ruhtenberg had about as complicated a program of planning for children's requirements as one could imagine. There are five children; at the time the house was built three were over twenty years old, one was sixteen and one eight. The solution was to divide use of the house so that the adults and the smallest child have sleeping quarters at the far end; the older children have bedrooms and a living room at the other end where they are free to entertain and live their own lives when they are home; and the family living and dining rooms lie between for all to use. This arrangement is possible because of the plan scheme which raises the older children's quarters up a half flight above the entrance level, over the kitchen wing, which is down a half flight. The house is located in an area where a view to the east, toward the plains which Ruhtenberg calls his "ocean", vies with a view to the southwest, toward Pikes Peak and the Rocky Mountains. The Ruhtenbergs prefer the plains view, and the house opens glass walls to the east and south, thus gaining visually and at the same time taking advantage of solar radiation (the heating bill for the house, in a region where winters are very cold, has never exceeded \$95 a year). The construction is a steel skeleton, with pumice block walls partly stuccoed on the outside and simply painted on the interior. Heating of the lower part of the house is by forced warm air; upstairs, radiant panels are formed by warm air circulating through the cores of a patented concrete slab.

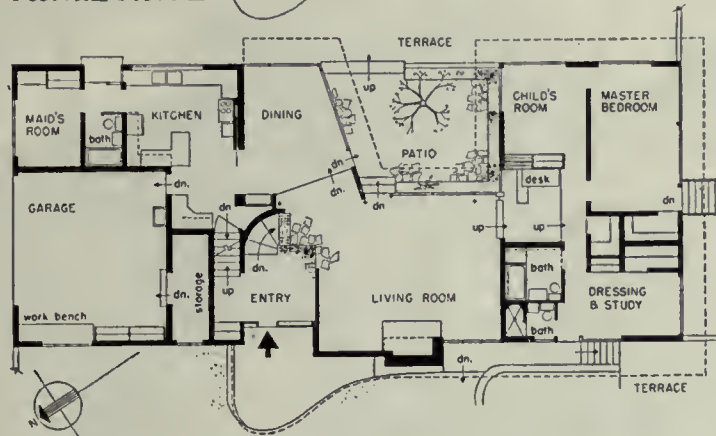


Above, dining room; at right, living room; outdoor terrace between them is shown on preceding page. Below, kitchen.





Second Floor

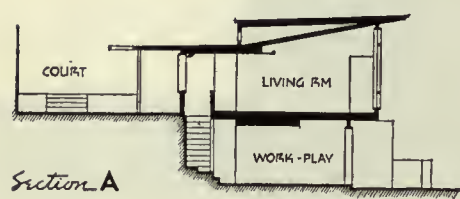


First Floor

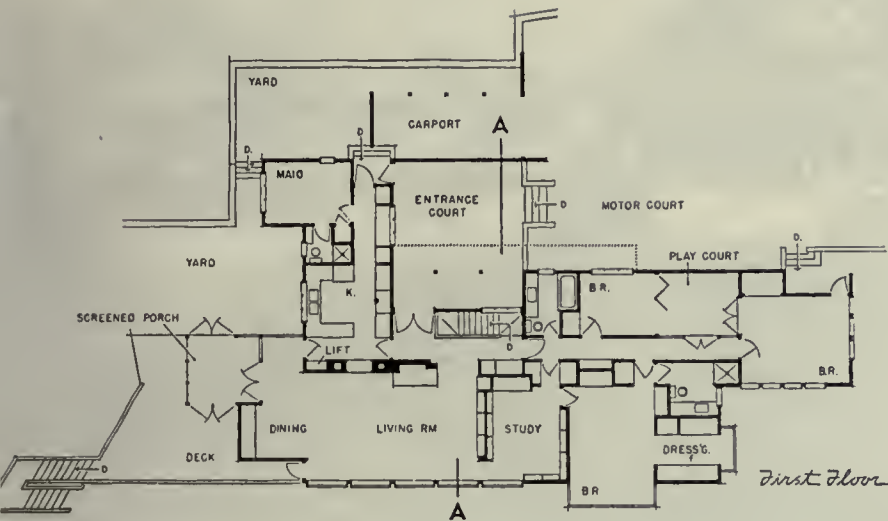
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JAN RUHTENBERG, DESIGNER





ALEXANDRIA, VIRGINIA



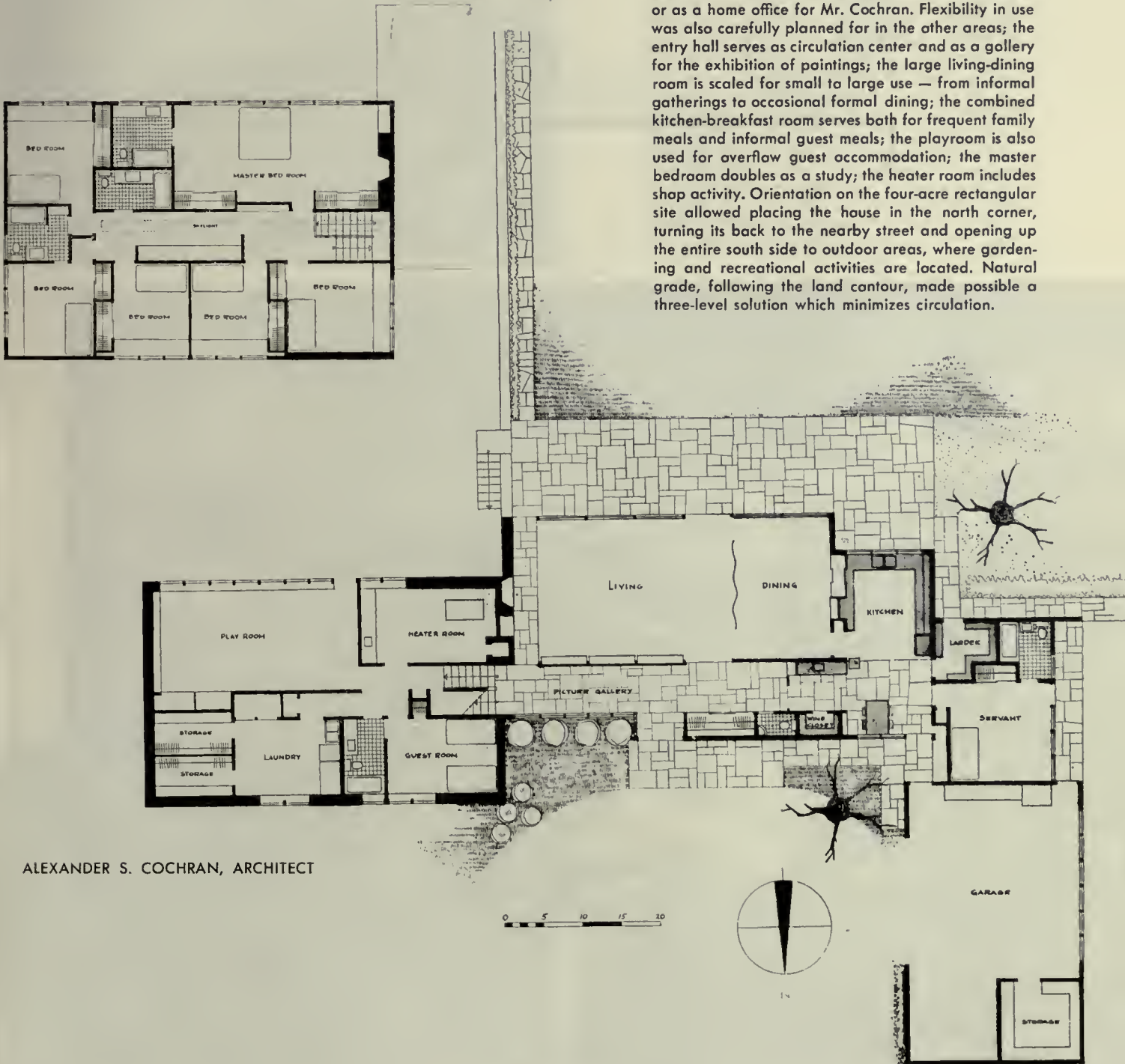
CHARLES M. GOODMAN, ARCHITECT

One of the principal problems in planning for a family with small children is that children grow up and family needs change. In this house which is owned by the Eric Severeids the arrangement of the childrens' bedrooms and playroom spaces is particularly flexible. The Severeids have twin boys; when they were very young they shared as a nursery the bedroom to the left of the "play court" indicated on the plan; now they use the larger bedroom to the right of this play space; ultimately the original nursery and the play court will be used as two bedrooms, which can be separated for privacy or thrown together. The house is built into a hillside, facing south, and the section across page shows how space below the living room has been used for a large additional playroom with a sunny terrace in front of it. Almost all of the other living quarters ore on the main floor. The adults have a quiet group of rooms to themselves — a bedroom (lower picture on opposite page), a study where Mr. Severeid works on his broadcasts, and a well-planned dressing space. The living room, with expansive windows opening to the view and the sun, merges directly into the dining area, which in turn is adjacent to an extended deck which has a screened portion for outdoor dining, as the pictures below indicate. In construction the house is a wood frame above the brick walls of the lower floor, covered on the outside with redwood siding and on the interior with "drywall" finish — plywood (and in some places redwood and cypress) which can be maintained easily — an important factor with small children using the house as small children will.

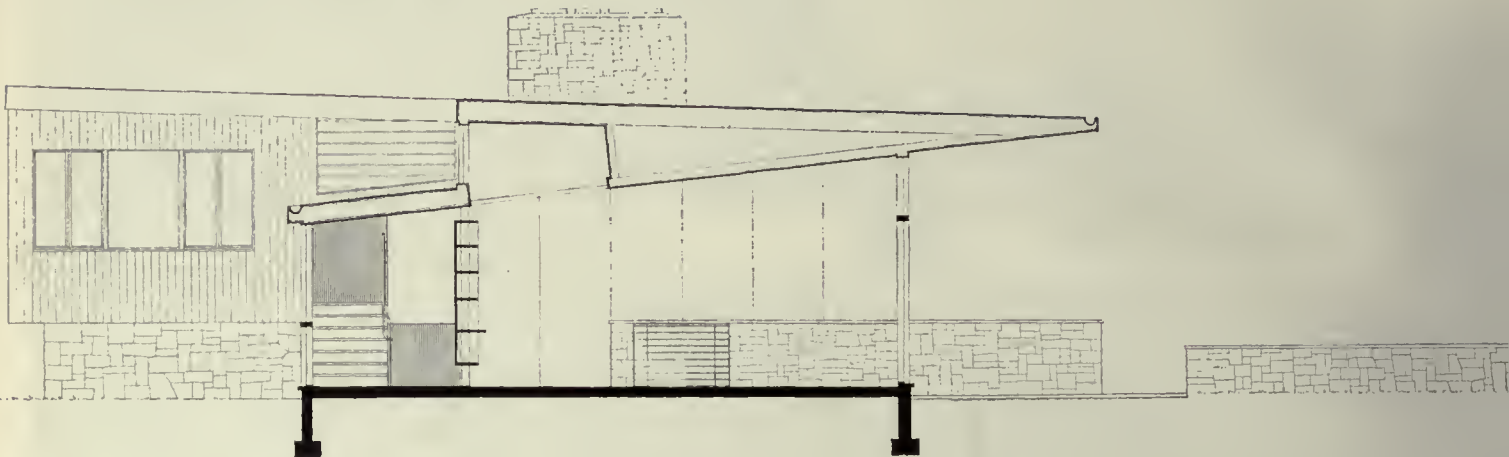




With four growing children — from three to twelve years old — architect Alexander S. Cochran planned his own house with forethought for future adaptability as well as for present needs. Maximum flexibility of space use was a major consideration. For instance, when the children are older their rooms may be converted: the three-year old daughter's room will become a part of the parent's suite, by cutting a doorway through the closet to the bathroom; by removal of a partition, a spacious guest room will take the place of two of the boys' rooms; the playroom may be used as an auxiliary living room for the children or as a home office for Mr. Cochran. Flexibility in use was also carefully planned for in the other areas; the entry hall serves as circulation center and as a gallery for the exhibition of paintings; the large living-dining room is scaled for small to large use — from informal gatherings to occasional formal dining; the combined kitchen-breakfast room serves both for frequent family meals and informal guest meals; the playroom is also used for overflow guest accommodation; the master bedroom doubles as a study; the heater room includes shop activity. Orientation on the four-acre rectangular site allowed placing the house in the north corner, turning its back to the nearby street and opening up the entire south side to outdoor areas, where gardening and recreational activities are located. Natural grade, following the land contour, made possible a three-level solution which minimizes circulation.



ALEXANDER S. COCHRAN, ARCHITECT



Section through house, showing how light is brought to living room skylight (see picture below) through clerestory.



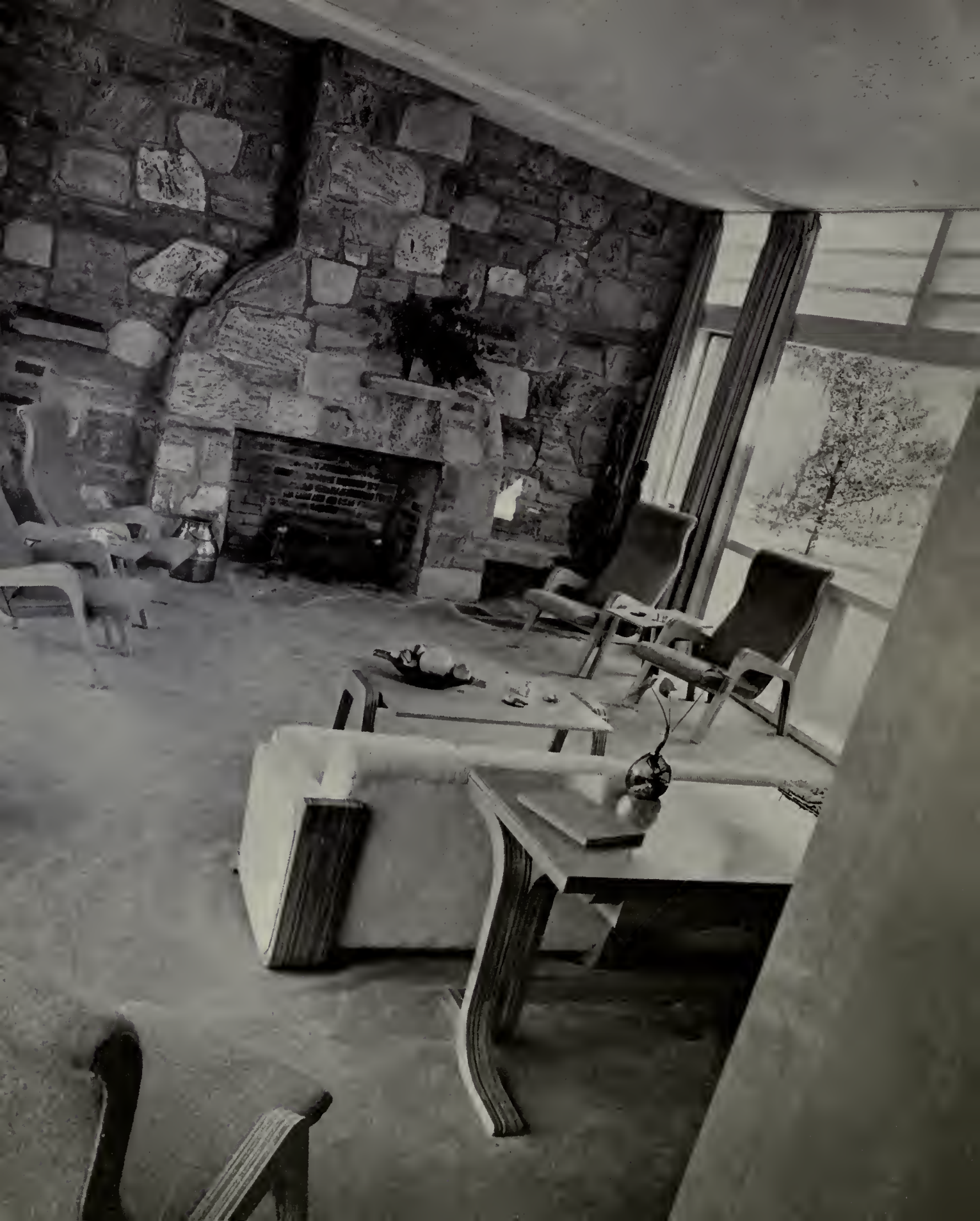


Above, front entrance. At right, living room terrace.

Because Mr. and Mrs. Alexander Cochran, and their four children, enjoy having many guests — overnight and otherwise — ease of entertaining, both formal and informal, was an important requirement. The nucleus for adult and family parties is the forty-foot living-dining room and its companion terrace. For the children there is the large playroom, also with its own play terrace adjacent. It may be converted to accommodate their overnight guests by the use of folding beds which are stored in a special closet. In addition, there is a "tenting" ground at the far end of the site where the youngsters and their friends may build forts and play outdoor games. The construction is basically frame, with vertical cypress siding over insulating sheathing on studs. The lowest level has solid local stone walls. Structural aluminum columns are used in the living-dining area. Floors on the grade are concrete slabs; upper floors are wood on joists; coverings are flagstone, carpet, cork, synthetic tile. Interior walls are plywood; ceilings are acoustic and sand-finished plaster, windows are aluminum casement. The bedroom hall has a thirty-five foot welded transparent plastic skylight. Gas-fired radiant heat circulates through slabs on grade and the upper floor ceiling. Twin exhaust fans for summer ventilation are located centrally over the stair.

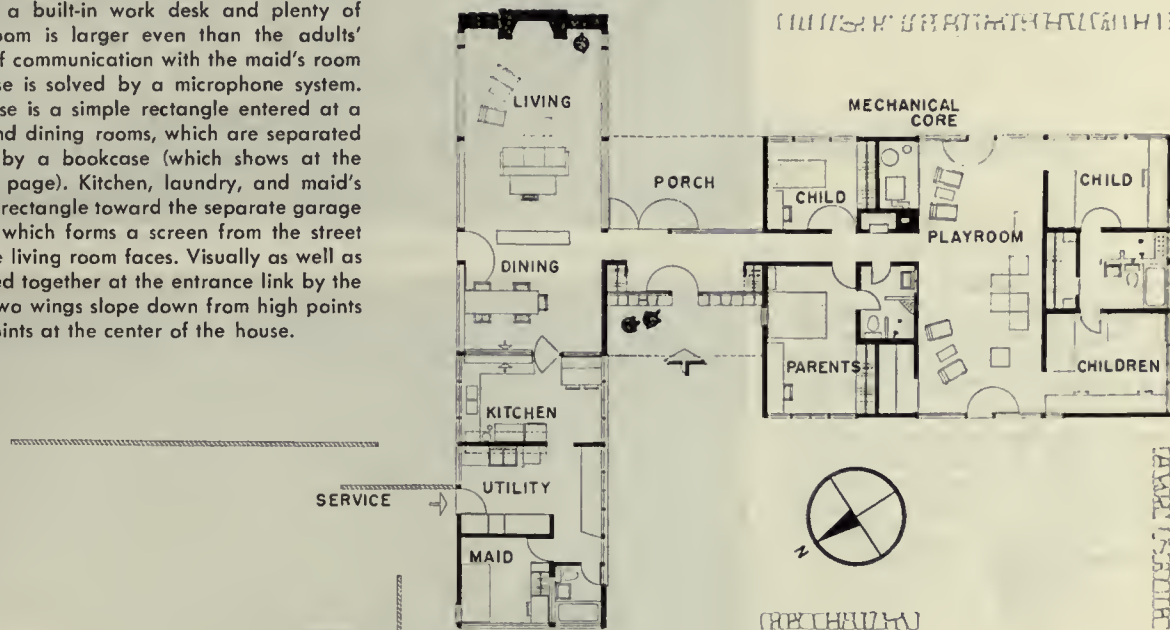


At left, children's playroom in use. This room has its adjacent terrace.

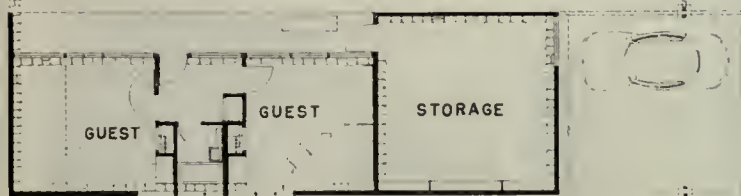


LAWRENCE, LONG ISLAND, NEW YORK

One of the most successful solutions in recent years to the problem of planning for a family with small children is this house for the Bert Gellers. Mr. Breuer has physically split a one-story plan into two parts — a bedroom wing and a living and dining wing — connected by an entrance hall and porch which lead directly to all parts of the house. In the bedroom wing things are so arranged that the entire far end is given over to the children's sleeping and playroom, so that the young people are not underfoot. Each child's bedroom has a built-in work desk and plenty of storage space. The playroom is larger even than the adults' living room. The problem of communication with the maid's room at the far end of the house is solved by a microphone system. The living wing of the house is a simple rectangle entered at a point between the living and dining rooms, which are separated from one another merely by a bookcase (which shows at the right of the picture across page). Kitchen, laundry, and maid's room are at the end of this rectangle toward the separate garage and guest-house structure, which forms a screen from the street for the lawn onto which the living room faces. Visually as well as functionally the house is tied together at the entrance link by the fact that roof lines of the two wings slope down from high points at the extremities to low points at the center of the house.



MARCEL BREUER, ARCHITECT



5 0 5 10 15





Great thought was given to the use of materials as well as use of the space in the children's playroom. The floor is stone surfaced, so that it is easy to clean and maintain and will take infinite punishment from its active users (since this floor, as all others in the house, is radiant heated, it is warm in winter). The indoor playroom opens to an outdoor play space, which is readily supervised from the large living room windows, as the photograph above indicates.



Special Requirements

The houses on the preceding pages all had special program requirements caused by the size of the family whose needs were to be accommodated. Two were for bachelors, two for couples with no one but themselves to plan for, and the remaining five for families with children of varying ages. This basic factor — the number and the ages of the people who will use the space — is often the major influence of the program on the house plan; but some of the most difficult problems, and some of the most interesting results, come from very special and specific requirements. When one is conducting business at home, when there is a hobby or an interest which produces unusual space requirements, even when one leads an out-of-the-ordinary social life, a very particular kind of house will be needed.

There is a controversial aspect to this matter of designing so specifically to a personal program. Many architects and sociologists and technologists claim that the custom-designed house is an anomaly, except for the fairly wealthy client. They point to the high cost of construction, and blame much of it on the attempt to make every house different. They compare the house-building industry to the automobile industry, and make the argument that a different design for every family's car would increase the cost of an automobile to a fantastic point — as house construction costs are rapidly becoming fantastic. While the authors of this book believe that there must be a use of twentieth-century technology in the construction of houses (the later section on *CONSTRUCTION* will amplify this), they also believe that those mass-production construction techniques should adapt themselves to the varied plan requirements which families may have—whereas the automobile has the one function of transportation. For instance, in the Grant house designed by Edward D. Stone and his associates, which is the next example in this book, the very unusual and special design, growing from the desire to have space to play and relax and entertain, nevertheless makes use of a simple steel framing system based on a twenty-foot modular spacing.

Not every family wants or can afford the specially planned provisions for entertainment that the Grant house has, so this is not the most common special requirement. One more often found is the need for professional or office space along with the family living accommodations. Several examples of planning from this sort of program are shown in the houses that follow. Robert Little, J. R. Davidson, and Hugh Stubbins all combined their architectural office-studios with their own houses, as many another architect has done. Equally successful solutions might be found to many similar problems, such as doctors' and dentists' offices.

The reason these office-home combinations present a special planning problem is that there must be access for the visitor who is business-minded, without interference with family privacy. A different sort of program is the one calling for a work space or a studio which needs as

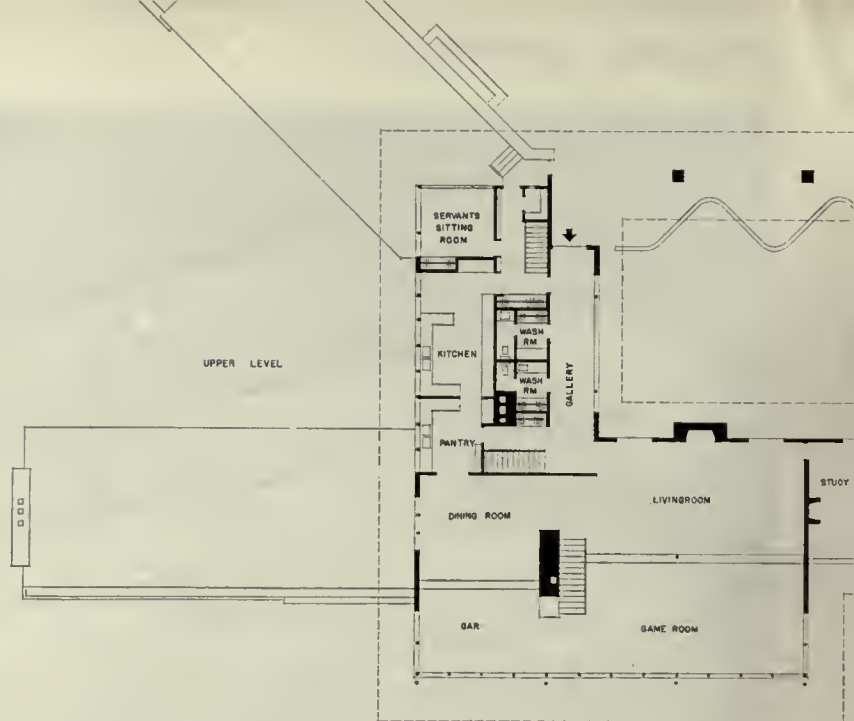
much privacy as any other room in the house—the sculpture studio in the Fitz-Gerald house designed by Wischmeyer & Lorenz (page 39) is one such. Or perhaps a separated room is not required — merely special provision for a particular activity in another room. An excellent example of this sort of thoughtful planning is the Lindstrom house by Edgar Tafel, shown on pages 44-45, where the piano, a very necessary item in this household, has its very own carefully arranged corner of the living room.

There can be many variations of this aspect of house design. The Harkness house and music studio by Douglas Honnold (pages 49-51) combined in one problem for the architect the matter of public entry to the studios; the need of planning for change, as the living quarters will be converted to additional studios; and the design of a large living room shaped so that it can be used for concerts, almost as an outdoor orchestra shell. What might have been a hap-hazard collection of unrelated spaces has been made to be a handsome, integrated piece of architecture. Obviously there will be many special program requirements, but the most extraordinary house program can be translated into a successful design result.

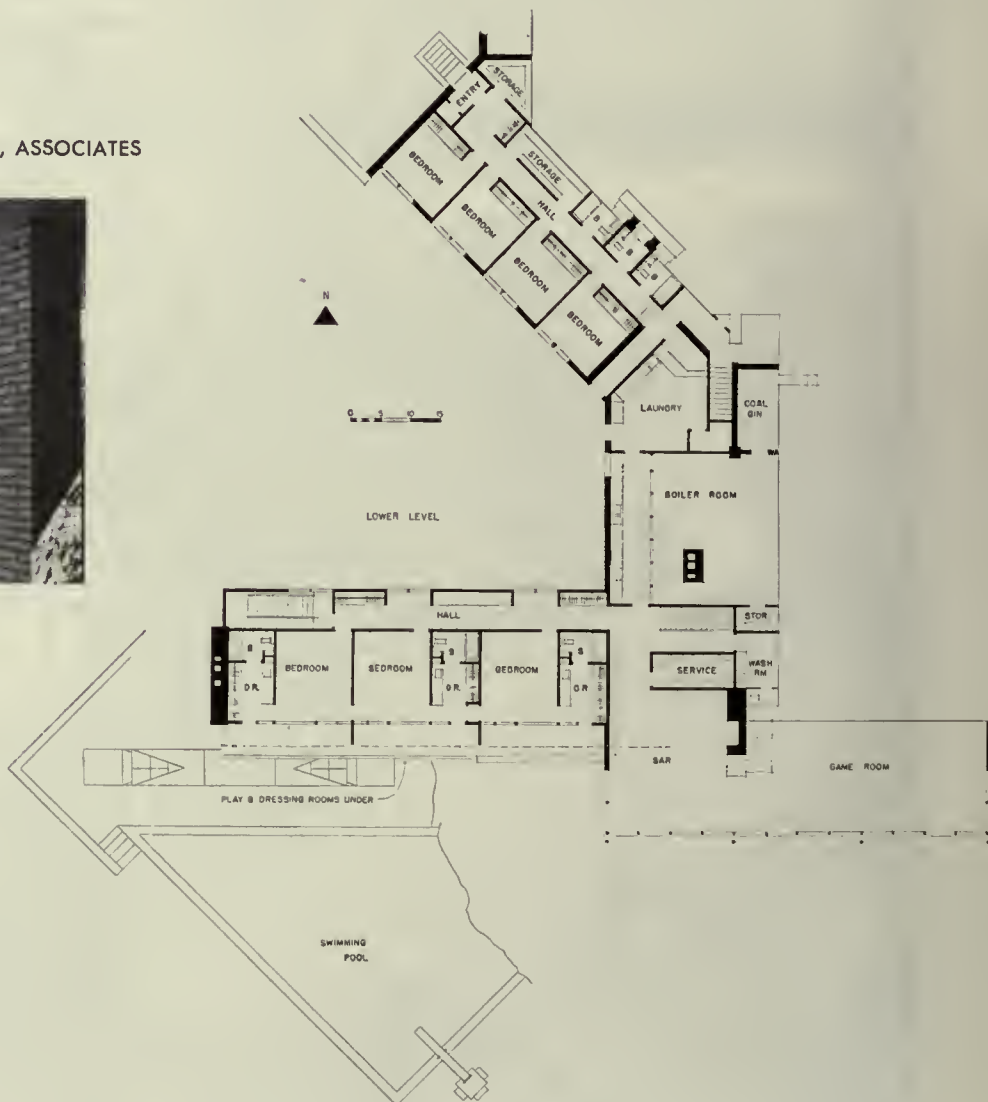


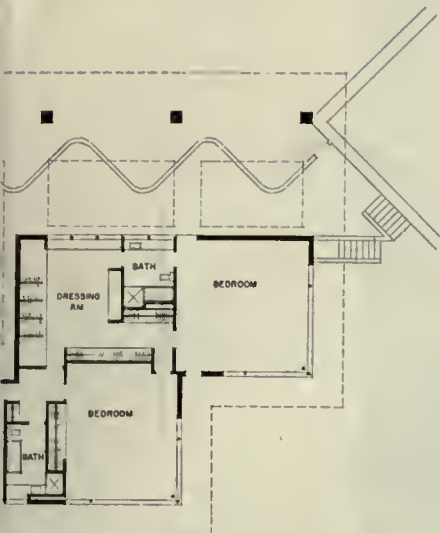
GREENWICH, CONNECTICUT, *continued*

The "special requirement" in the case of the W. T. Grant house was an unusual degree of hospitality, expressing itself in extensive entertainment and frequent overnight guests. This program and the slope of the ten-acre site southward toward Long Island Sound dictated a plan solution which breaks the house into various levels, and allows a distinct separation of master suite, guest areas and service quarters, with the main living space in the center. The house is entered from an upper level, with the entrance court beautifully concealed behind a serpentine brick wall, which the photograph below and the one on the preceding page show. The main living space on this entrance level overlooks a large playroom, which is two stories in height — a great room with appropriately large-scaled windows looking out toward the view. Almost all of the rooms take advantage of this view, as a matter of fact, and the ingenious terracing of the site to make this possible on the variously set-back levels is indicated by the plans.



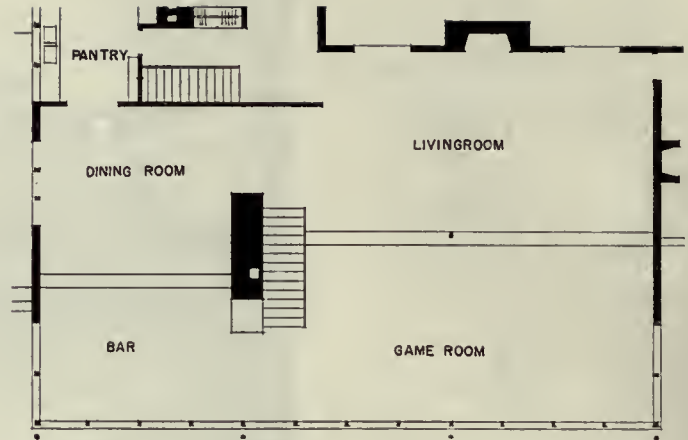
EDWARD D. STONE, ARCHITECT
KARL J. HOLZINGER, ROY S. JOHNSON, ASSOCIATES





GREENWICH, CONNECTICUT, *continued*

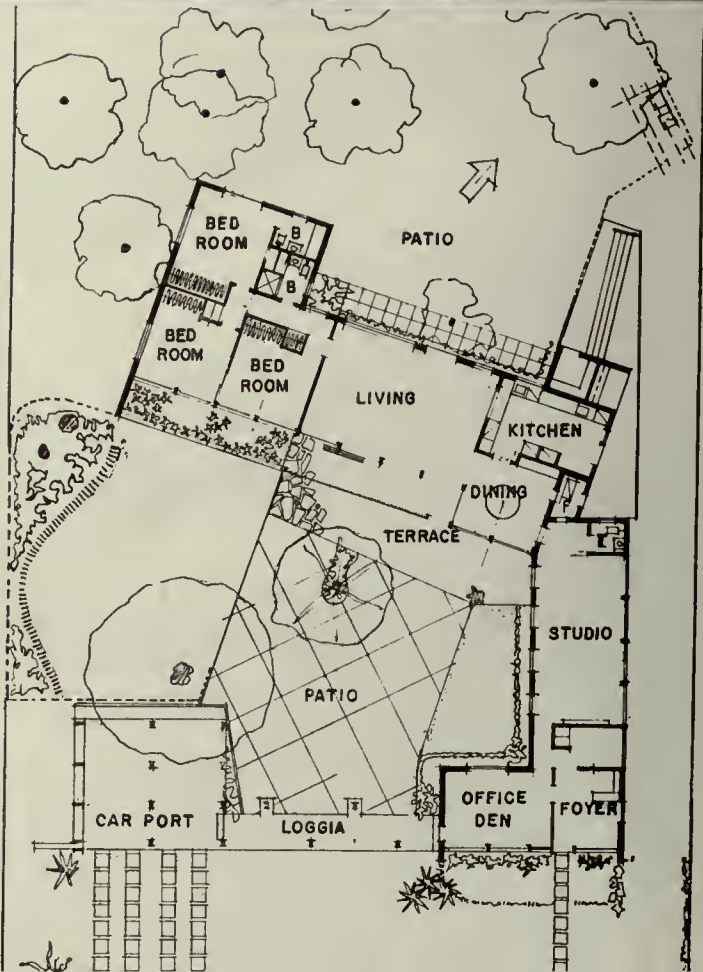
The construction of the Grant house is particularly interesting. A large structural "grid" is the basis of the system — steel members approximately twenty feet on centers — and it gives the key to the scale of the architectural composition. In the straight-on photograph of the "view" side of the house on the preceding page, the steel supporting members can be seen at every fourth window division. Between grid members the structure is wood frame, and walls are cypress or brick. The house is heated by radiant coils in the ceilings, and the master quarters are air-conditioned. Interior decoration was by Dan Cooper. A. Lundquist was the landscape architect.







ROBERT M. LITTLE, ARCHITECT



When architect Robert M. Little built his own house he had a very special requirement of his own — to have his studio connected to his house, but with separate entrance and telephone system. He also had in mind that his son and daughter, although living at home at the time, would shortly be married and reside elsewhere. He therefore planned the bedrooms so that the two front ones could be thrown together and become the master bedroom, with the original master bedroom becoming the guest room. The solutions to both of these initial needs have worked out perfectly according to Mr. Little. The living room, below, is a screen and glass enclosure in the center of two patios. The secluded, quiet rear patio is used for living and entertaining. This combined indoor-outdoor living arrangement is ideal in the Florida climate. The front patio is partially protected by the carport, which connects with the front of the studio by a covered loggia, and serves as a screen to the

heavy traffic on a highly travelled boulevard. The site was selected for its easy access to the center of town and for the well-established trees, such as Banyan, Pidgeon Plums, and Gumbo Limbo. The tree locations and their character influenced the plan of the house, since the architect did not wish to remove any of them. By retaining them he located the house in relation to the trees so as to help solve the sub-tropical sun problem. Orientation and overhangs also contribute to the sun control. A three-zone system for air conditioning and heating affords additional environmental control. A logical construction concept was put into practice by the architect. He wanted to have the basic wall and roof construction determine the finishes and avoid as far as possible the usual labor processes of piling one material on another. In this house materials are used which provide their own integral exterior and interior finishes, such as exposed concrete block, cement, asbestos board, and glass.





Bedroom wing, above, has vented wall of glass, a wide overhang for sun control. Screened extension of living room, at right, increase its width and airiness.

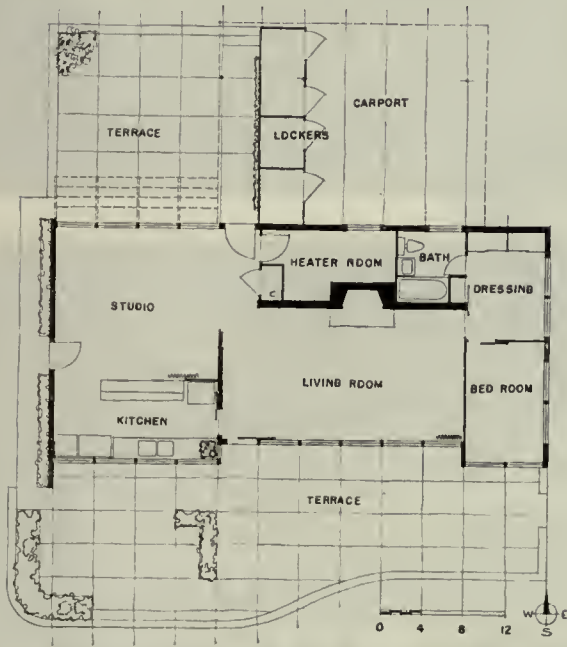


KIRKWOOD, MISSOURI

Primary plan requirement for this minimum house designed for Mr. and Mrs. Clark B. Fitz-Gerald was a large studio with north light for the owner who is a sculptor. The remainder of the house was to be as open as possible, so planned that large or small groups could be entertained with equal ease. Also desired was easy circulation from indoors to outside living areas, which are used extensively in summer and fall. The owners, after living in the house, feel that the design solution has admirably met their requirements for living, working, and entertaining. The north and south walls are on a four-foot modular system. Vertical structural members, on this module, form window mullions. For ease in cleaning away dust from wood and stone sculpture, low maintenance materials such as exposed concrete floors and hard-board walls were installed. Radiant heat floor is supplemented by solar heat from windows on the entire length of south wall, which has an overhang designed to admit winter sun, exclude hot summer sun. The north louvered overhang reflects light into the studio.

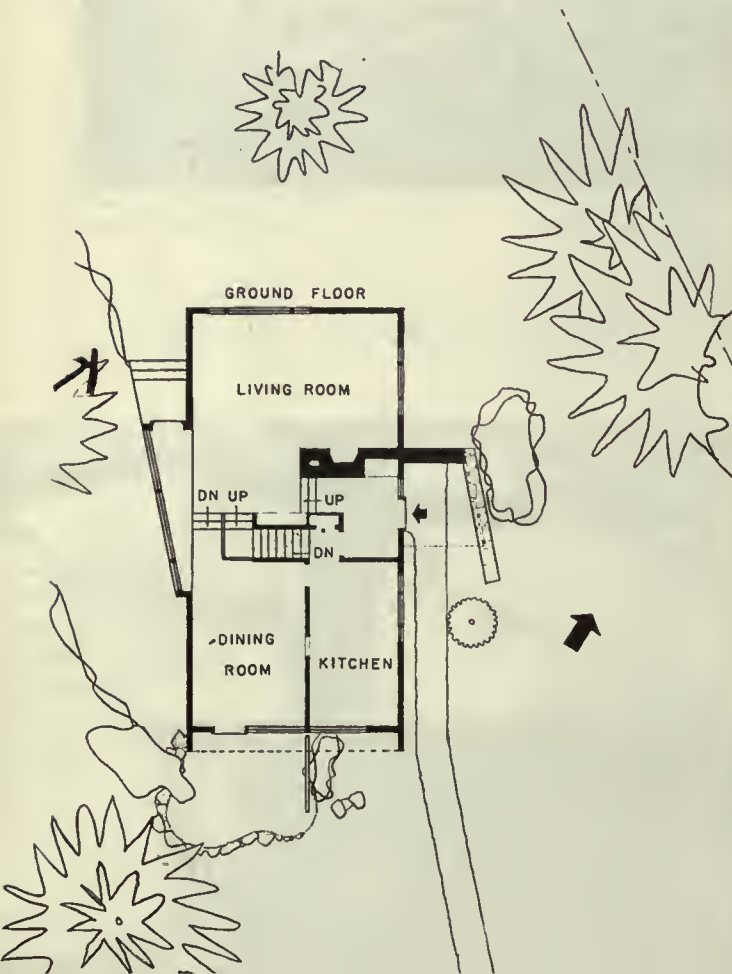


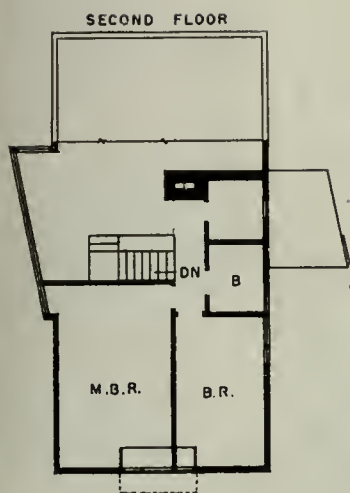
WISCHMEYER & LORENZ, ARCHITECTS



LINCOLN, MASSACHUSETTS

The out-of-the-ordinary aspect of the program for this house designed for Mr. and Mrs. William Schwann was their interest in music, which resulted in a requirement for generous, comfortable space to enjoy piano music and listen to records. The two-story living room with its focus on the piano indicates the answer to this desire. Furniture arrangement has been carefully studied with regard to views, proximity to the fireplace, and conversational grouping. How successful this has been is indicated by the two photographs of the living room on the facing page. Another specific requirement of the owners — unusual these days — was the separated, rather formal dining room shown in the picture at the right, below. A partial second floor, over the dining room-kitchen end of the house, contains the master bedroom and a guest room. That the house is small in periphery and raised to two stories is the result of a desire to uproot as little as possible of the landscape. The site is small but heavily wooded, and the large windows in the living room, very close to the trees which were carefully preserved, bring the outdoors intimately into relation with the interior. The house is frame with fir boarding on the exterior. Because of the special use of the living room for music, acoustical plaster is used on the walls. The heating method is a split system, combining hot water convectors with peripheral radiant hot air panels. The large glass area in the living room is additionally protected by a "curtain" of hot air in the winter time, and is guarded against too much solar heat in the summer by the shade of the close trees.





WALTER F. BOGNER AND
CARLETON R. RICHMOND, JR.,
ARCHITECTS

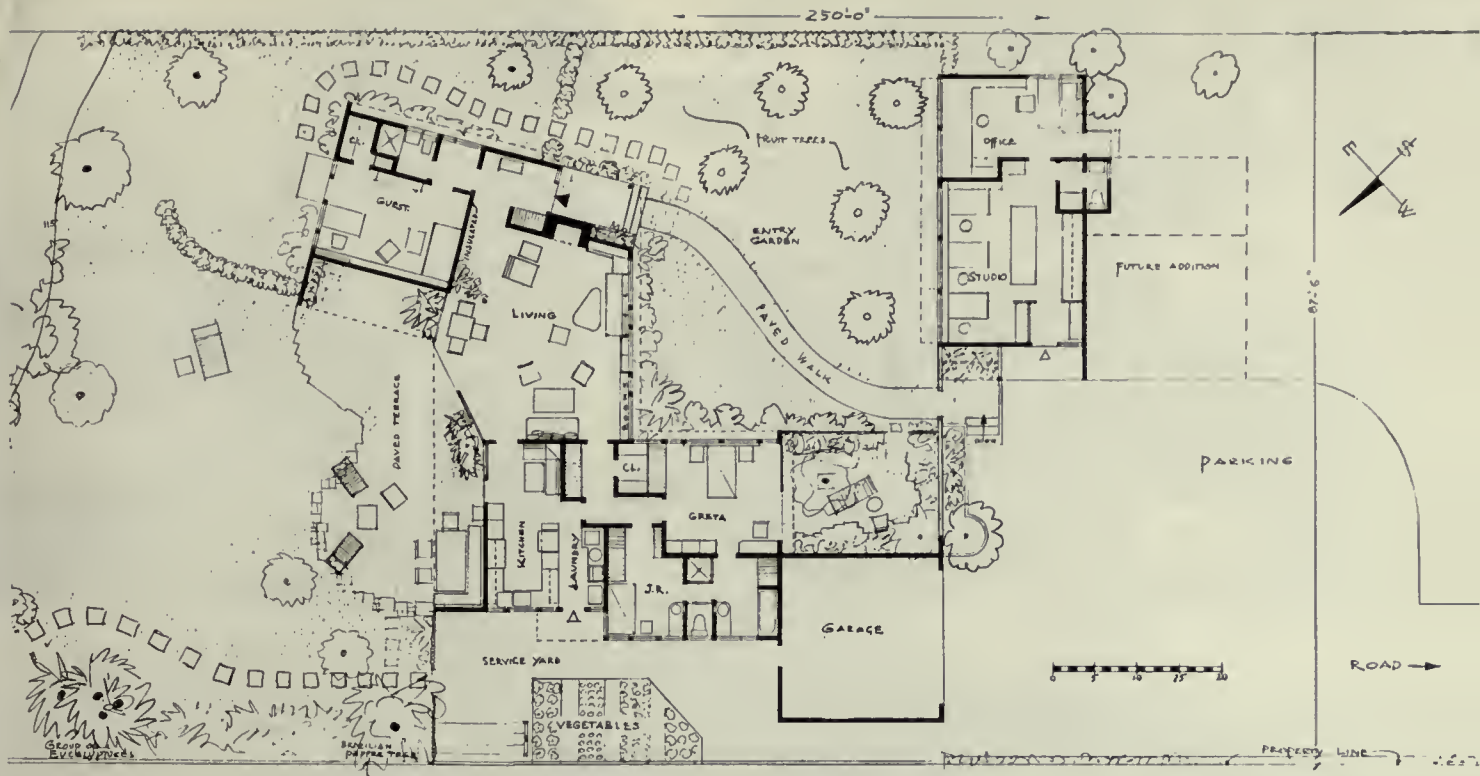




An architectural designer often likes to work at home; the resulting special program requirement is a difficult one. Relation between the office or studio and the house should be close, and yet the functions of the two must not mingle. Mr. Davidson's own house and studio show a very workable solution. Clients enter his office before they come to the "entrance garden" of the house itself. The office and studio are thus isolated, and yet they form part of the total building group which encloses the attractive garden area. The house itself (except for the principal bedroom with its own private garden) turns its back on this entrance patio, and instead looks toward the northeast, where a row of tall eucalyptus trees line the property. Living room windows open wide to this view, as the indoor and outdoor pictures below indicate; toward the south the windows are high, letting light in but giving privacy from this direction (picture at left). The Davidsons enjoy "the experience of this most pleasant exposure of large glass area toward the northeast, contrary to mostly preferred southern exposure." Each room has its own patio garden, and each room has two exposures. Natural light is controlled either by large overhangs or by venetian blinds, which at the same time keep out unwanted heat from the sun. Outside and inside thermostats regulate the gas-fired radiant heating system.

J. R. DAVIDSON, DESIGNER

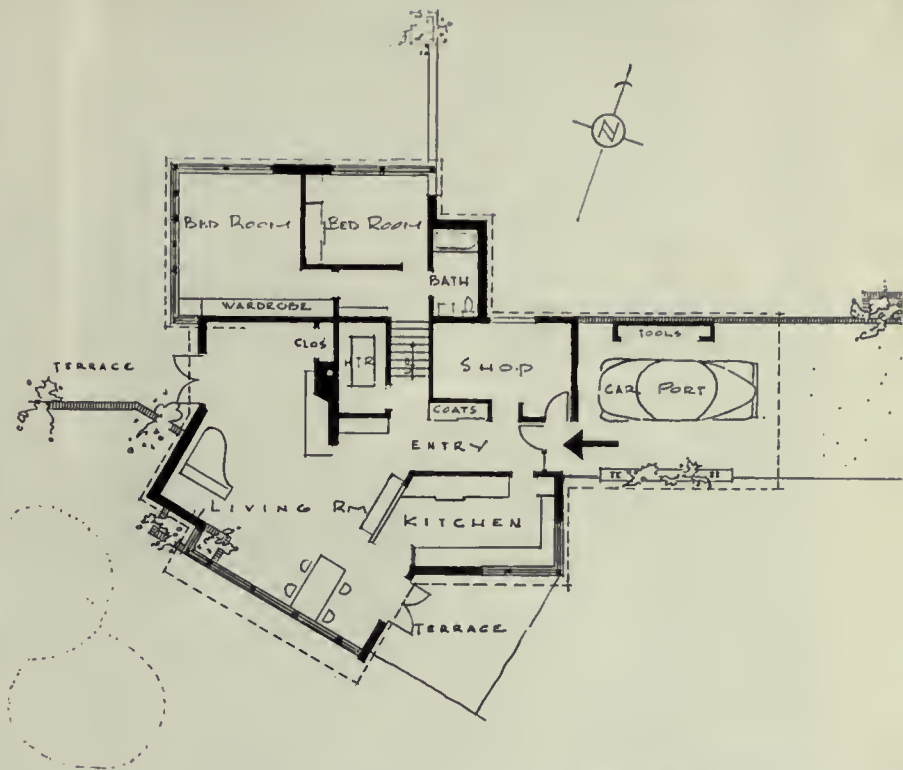






ARMONK, NEW YORK

Both Mr. and Mrs. Edwin D. Lindstram, for whom Edgar Tafel designed this house, are musicians, and this fact plus the peculiar cantours of the rocky site determined the plan arrangement. Bedrooms are on a separate, higher level — an advantage derived from the slope of the site. The living room is angled both to face the southeast view over Armonk Village half a mile away and to provide a corner for the piano (photograph directly below) which is planned specifically for that purpose. Rather than crowding the rest of the space in this room, as is so often the case when a piano must be accommodated, this arrangement gives emphasis to the music needs, and yet makes both a dining area and a fireplace-centered conversation alcove possible and enjoyable. The photograph at the bottom of the facing page shows these two parts of the room, with the piano alcove at the right. The kitchen arrangement is most ingenious, satisfying Mrs. Lindstram's desire to "hear goings-on in the living room but not have the kitchen visible from there." The photo at the right below shows the splayed wall between kitchen and living room, which acts as a screen but does not go all the way to the ceiling. Construction is a brick cavity wall, with the masonry exposed both inside and outside the house. Clerestory windows give light to the stair hall, bath, and heater room. Heating is forced warm air, returned under the floor in a "crawl space."



EDGAR TAFEL, ARCHITECT





LEXINGTON, MASSACHUSETTS

Here again a studio-drafting room, in Hugh Stubbins' own house, is combined with the program for family living. Although in this instance the studio is contained within the same structure, it is zoned to be isolated from the family living quarters. Actually the plan is logically divided into three main zones: there is the studio on the lower floor; there is the main space for living, dining and entertaining, with the kitchen as the center of activity; and there are bedrooms for the three children with a study-playroom as the center. Between the living area and the children's wing is the master bedroom. The entrance is so placed that there is direct access to all three major zones. The house was oriented for sun and solar heat, and in relation to existing shade trees. Placed on a gentle slope, it follows the contour of the hill to accommodate the studio-drafting room on the lower level, thus successfully isolating it from the house itself. Fieldstone retaining walls and fences link house to the hillside and make possible four terraces, for living, dining, children's play, and studio. Floor-to-ceiling sliding glass panels open living and dining rooms to terraces. For future flexibility in the plan, demountable partitions were incorporated in the children's wing, so that this area may be adjusted to changing family needs. A free-standing fieldstone fireplace wall separates dining and living rooms. Built-in furniture and cabinets are carefully detailed: in the master bedroom wardrobes have recessed lighting to illuminate room and inside of closets; a storage wall and pass-through counter midway separates dining room and kitchen.

HUGH STUBBINS, JR., ARCHITECT

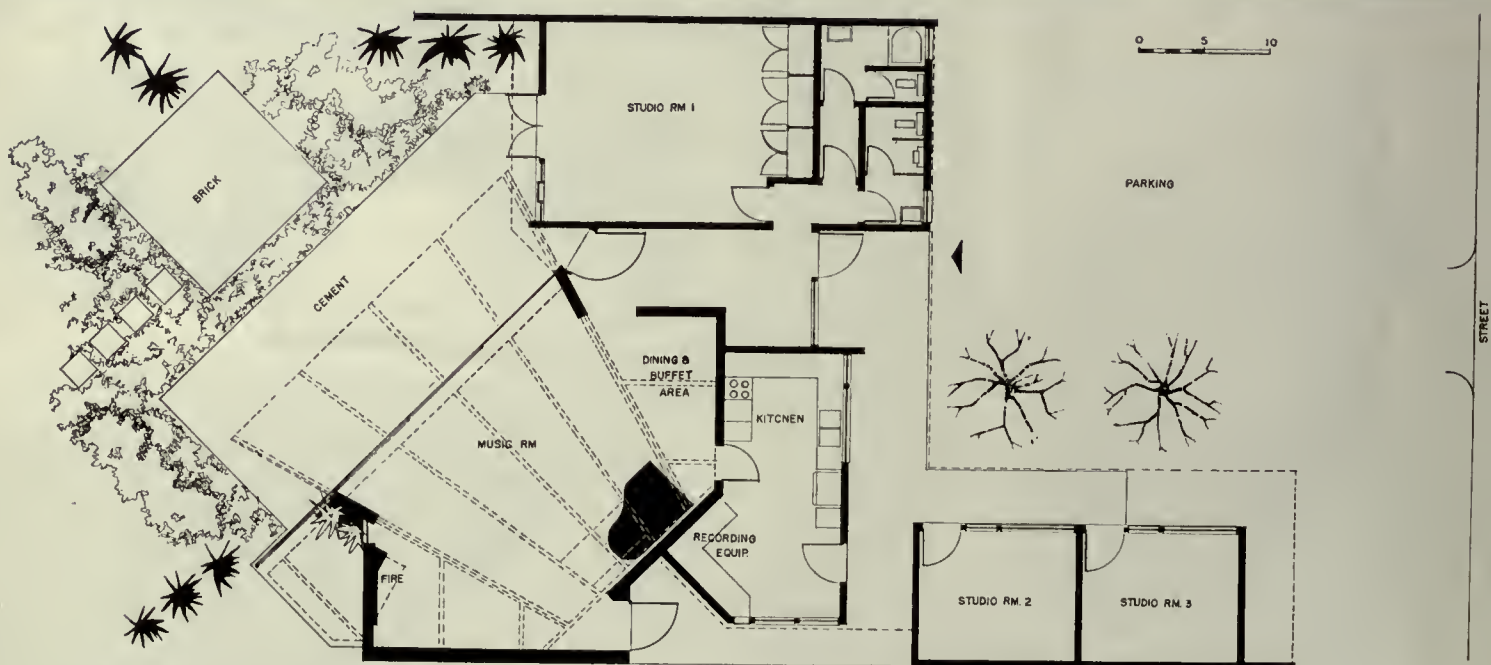






Above, dining room has gray slate floor for easy maintenance; pass-through counter for serving. At right, a covered flagstone walk leads to main entrance from garage which is separate structure.





DOUGLAS HONNOLD, ARCHITECT

Planned essentially as a music studio by Douglas Honnald for the Director of Westwood Music Center, Mrs. Edward L. Harkness (Edna Larson), this pavilion also serves as living quarters for Mr. and Mrs. Harkness. Eventually it will be entirely devoted to professional use. The basic concept necessitated a well-lighted studio by day without late afternoon glare and with outdoor space available for additional seating at concerts. A small two-room studio for the instruction of violin, voice, etc. was placed in a separate building so that it would not interfere with the main studio and living space. Located on a property with an eastern exposure on a busy street, the large studio room was oriented to open on a wide angle to the west for privacy and the enjoyment of music life. A glass wall of panels, which slide into a pocket at one side, opens this room to the terrace to accommodate the audience at concerts. Control of acoustics is achieved through the use of reflective surfaces; absorptive surfaces are supplied by audience and furnishings. The ceiling lights are bled at the beams. Connected with the main studio, but as separate appendages, are a kitchen with access to the street, and a bedroom-bath arrangement at the rear for privacy. Construction is typical stud wall framing with exposed beams and 2" sheathing throughout. Naturalness is the alternate use of natural stain and bright colors on the finished wood.



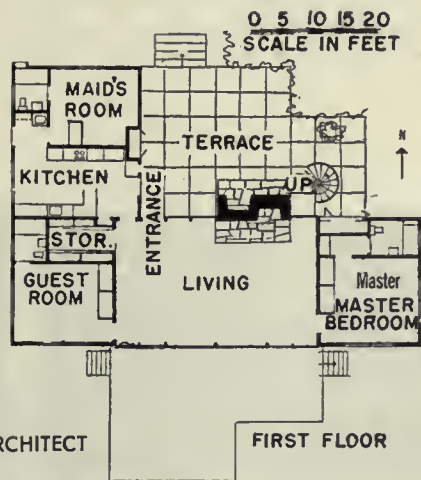
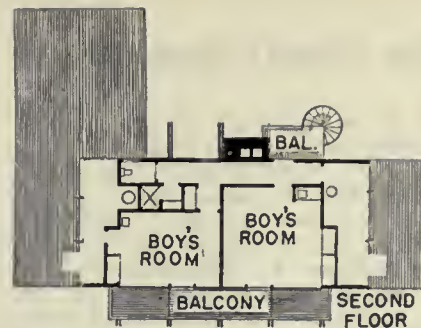


Vacation Houses

It might almost be said that the contemporary house today, designed for year-round living, is as informal in its character as the vacation house of a few decades ago. There still remain, however, many special design problems that result from the program for a vacation house, or a house that will be used only part of the year. Many times week-end visitors to the vacation house will not want to open the entire establishment. In the Walker house on Lake Tahoe, designed by Joseph Esherick (view from the lake is shown above), it is possible to open all or a portion of the house if it is used during the winter. Another factor is that a lesser degree of privacy seems to be satisfactory in this sort of house. Henry Hill has no doors in any room except the guest's, in his own house in Carmel (pages 58-61) and Harris Armstrong divides one big room into sleeping cubicles in his own vacation home in the Ozarks (pages 54-55). Closing the house for the winter is another consideration. Note in the Esherick and Armstrong houses two ways of shuttering living room windows during the closed-up period.

LAKE TAHOE, CALIFORNIA

Although this house for Mr. and Mrs. Brooks Walker is mainly a summer house, it was designed also for winter use during the skiing season. The principal requirements were for easy maintenance and operation, privacy and independence for family and guests. In order to provide maximum privacy and flexibility architect Joseph Esherick separated the master and guest bedrooms by the large central living room, placed the two sons' rooms on the second floor. Most of the circulation is outside the house, with an exterior staircase leading directly to the boys' rooms. The kitchen and maid's room were kept as a unit so that these could be opened in the winter with a minimum of effort. If necessary, the balance of the first floor can also be opened if more space is required. The living room was kept as an open element with a spacious deck (below) on the lake side and a terrace on the sheltered side. A simple system of pulleys permits simultaneous raising of the balcony floor and lowering of the upper half of the living room shutters, thus preventing an accumulation of snow on the balcony and permitting easy opening of the living room blinds in the winter for short stays. The lower halves of the living room blinds remain in place all winter and are removed in the summer to form a simple car shelter roof. Heat is by gravity air system.



JOSEPH ESHERICK, ARCHITECT

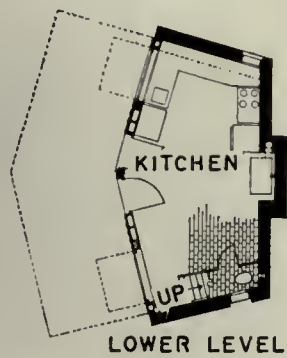
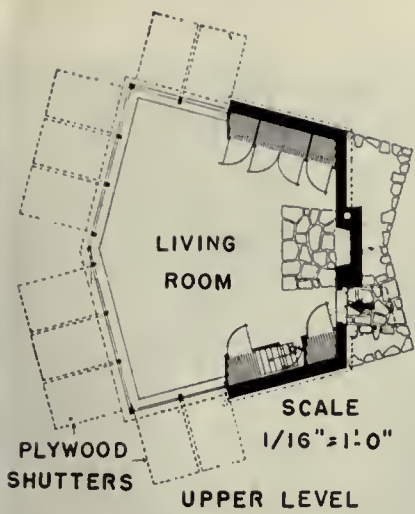


JEFFERSON COUNTY, MISSOURI

Designed by Harris Armstrong for his own use, and for informal entertaining, this week-end house is as rustic as its setting in the foothills of the Ozark Mountains. Rock from the Missouri creek, upon the bank of which it is situated, was used in rough forms and backed by concrete to form the walls. The cantilevered upper level faces due south into the limestone cliff on the opposite bank, and forms a roof over the porch on the lower level. As in the case of the design by Joseph Escherick, shown on the preceding pages, a virtue has been made of the necessity to close up the house when it is not being used. Here the second floor opens up like an umbrella in warm weather, with plywood flaps which provide ample shade, raised

from inside by means of ropes and pulleys. When the house is not in use these close down to protect the large living room from the elements. For sleeping, the big main room is divided by curtains into three small bedrooms, leaving the fireplace corner and the stairway to the lower level free. During the day the beds are converted into sit-up chaise lounges. Heating, cooking, and refrigeration on the kitchen level and all lighting are serviced from a 500-gallon liquid gas tank buried in front of the house. Adhering to the complete rusticity no plumbing has been provided inside the house. In the utter simplicity of its plan this house well illustrates the special results that can come from the special requirements of vacation living.





HARRIS ARMSTRONG, ARCHITECT



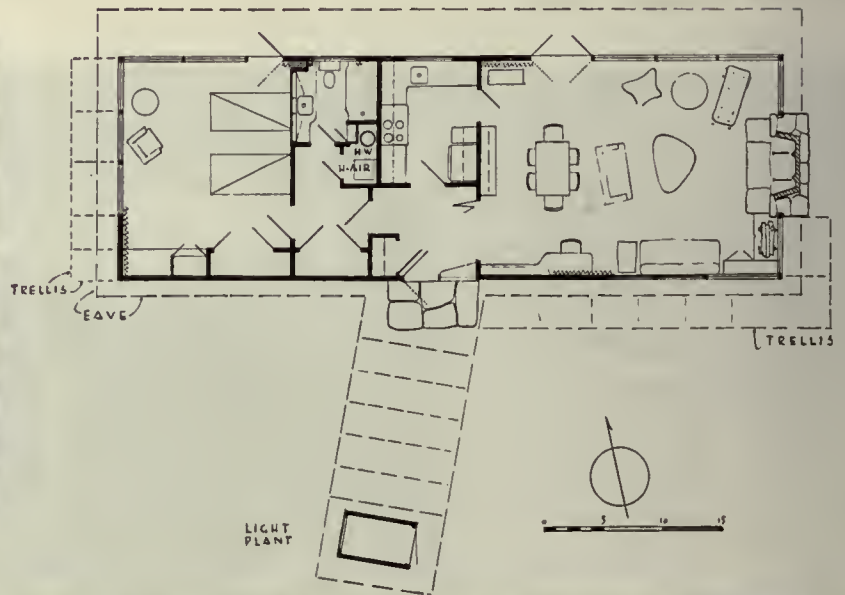
KELLEYS ISLAND, OHIO

For a vacation retreat which would be easily accessible from his down-town office in Cleveland, Thomas Hoyt Janes, Jr. selected a site on Kelleys Island. It can be reached in about twenty minutes flying time from the airport which is close to his office. Used only during the non-heating months, the house was designed by Ernst Payer for a bachelor who wanted a place for relaxation, swimming, and entertaining. With frequent guests for dinner and over weekends the generous living-dining room was planned with their comfort in mind. This room may also be used for an overnight guest room, but normally guests stay in other houses on the property. The only bedroom and its adjoining bath are separated from the living

area by the kitchen and the entrance hall which has direct access to the bedroom section. Situated on a rocky point of the island facing north to the lake, the living room enjoys this view, and its south-facing windows allow a view across the flat point of the island. Bedroom windows open to the lake and to the west. The large fireplace, used for chilly evenings and fall days, is supplemented by a small heater for bottled gas located in a closet next to the bath. The simplicity of the shape of the building was deliberately planned to contrast with the twisted shapes of trees and jagged rocky cliffs. Warm tones of color were used inside to rest eyes from the glare of lake, rocks and clouds. Exterior and interior walls are redwood.



ERNST PAYER, ARCHITECT





CARMEL, CALIFORNIA

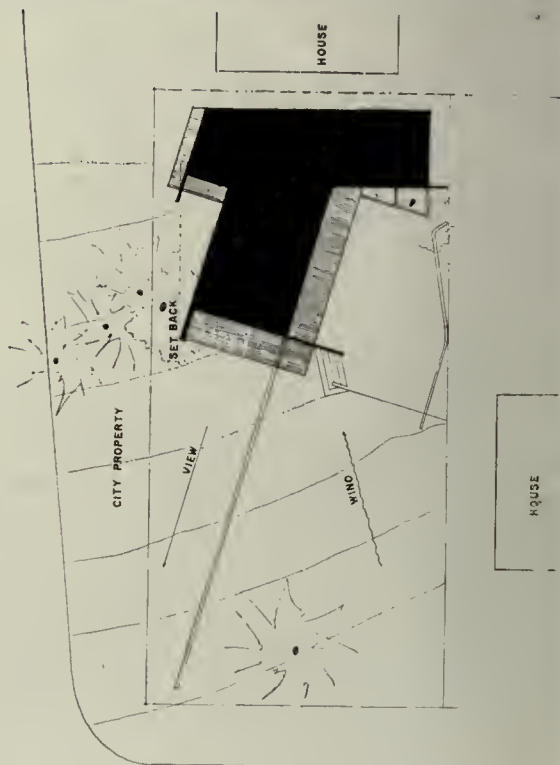
As contrasted with an occasional or week-end vacation house, Mr. and Mrs. Henry Hill wanted an all-year retreat house to be enjoyed by their family and friends at any time. With such a program Henry Hill designed their own house at Carmel-by-the-Sea to be easily opened or closed on short notice. The site, on a relatively narrow street corner two blocks above the beach — the lower street being Camino Real, the old Spanish trail — presented a problem. The major view, to Carmel Point, faced this street side. To take advantage of the view and at the same time maintain privacy from the street, Mr. Hill, angled his house on the narrow plot, and used the gentle slope of the site in a very ingenious way, which is shown on the following pages. With privacy assured from the outside, the plan itself could be very open. There are no doors between rooms, with the exception of the guest room which can be completely closed off from the rest of

the house and has its own separate entrance. Sliding glass walls open the indoor living area and the main bedroom to the pleasant outdoor patio. A further link for the outdoor-indoor relationship is achieved by allowing a spreading tree to grow through the glass wall of the bedroom. A compact kitchen area is tucked into one corner of the large main room, easily accessible to the dining area and the patio. Separated from the living room only by a partial partition, with cabinets and work space below, it allows the family to visit with their guests while preparing meals, and also has the added merit of keeping a sense of space. Native Carmel stone was used for exterior walls, in combination with a simple post and beam structural system. Tongue and groove boards, 2 x 6 inches, are used for roofing with their exposed undersides stained with gilt. The furnace feeds warm air into a space above the kitchen from which it is distributed.

HENRY HILL, DESIGNER

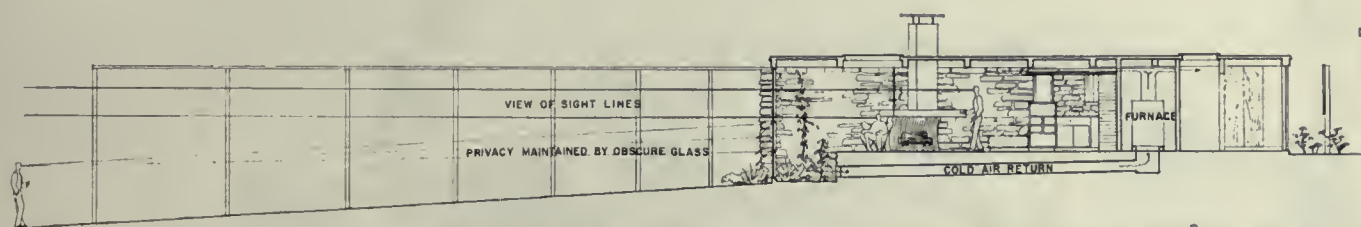






CARMEL, CALIFORNIA, *continued*

The way in which "view sight lines" from the living room have been maintained while this part of the house is shielded from the street is shown by the section and the photograph below. Note the obscure glass at the lower level of the living room window wall. A sunken garden inside, below the floor level of the living room, matched by a plant bed outside the glass wall, contributes further to the privacy from the street. The manner in which this view is obtained and enjoyed while the room turns principally to its southern terrace, is shown by the photograph (left).





STAFFORD ROAD

ATWOOD

DRIVE



HOUSE

TERRACE

GARAGE

POOL

HOUSE 1

TERRACE

TERRACE

GARAGE

VEGETABLES & CITY FLOWERS

VEGETABLES & CITY FLOWERS

VEGETABLES & CITY FLOWERS

Subdivision Houses

It is a fact which the architectural profession admits sadly that most of the houses built speculatively for sale have had little or no advantage of professional design talent. Builders have felt that their safest approach was to put on the market a pre-tested, pre-accepted sort of house, and for this, they believed, they could use stock plans. As a result design progress has been slow in this numerically important field — but in recent years there has been progress. Some builders have produced houses which used contemporary design principles—and sold them rapidly—and some architects have worried about the problem. A most potent influence in bringing together architects and builders for mutual study of ways to improve subdivision houses has been the educational-research activity of the Housing Research Foundation of Southwest Research Institute. Four of the houses that follow have been a part of this program, which will assist and promote “quality” subdivision houses.

The design problem in this house type, as architect Charles Goodman says in describing his Hollin Hills development, shown on this and the next three pages, is to provide a plan which will meet “general average living requirements.” The only way provision can be made for special and unusual needs is to design, as Alexander Knowlton did (page 66), a many-purpose additional room, which each family may use as it wants. The builder-house plan must be economical in the use of space and in the use of materials, but the result need not be shoddy. A design such as A. Quincy Jones provides (pages 68-70), for anyone to build on his own lot with necessary variations, proves that the “typical” program can result in good architecture. Landscaping and siting the development house is a problem seldom solved well. The coordinated land design for Hollin Hills, shown on the facing page, indicates what can be accomplished by a thoughtful approach to this problem. The site planning was especially commended when the project was chosen for an annual award by Southwest Research Institute.

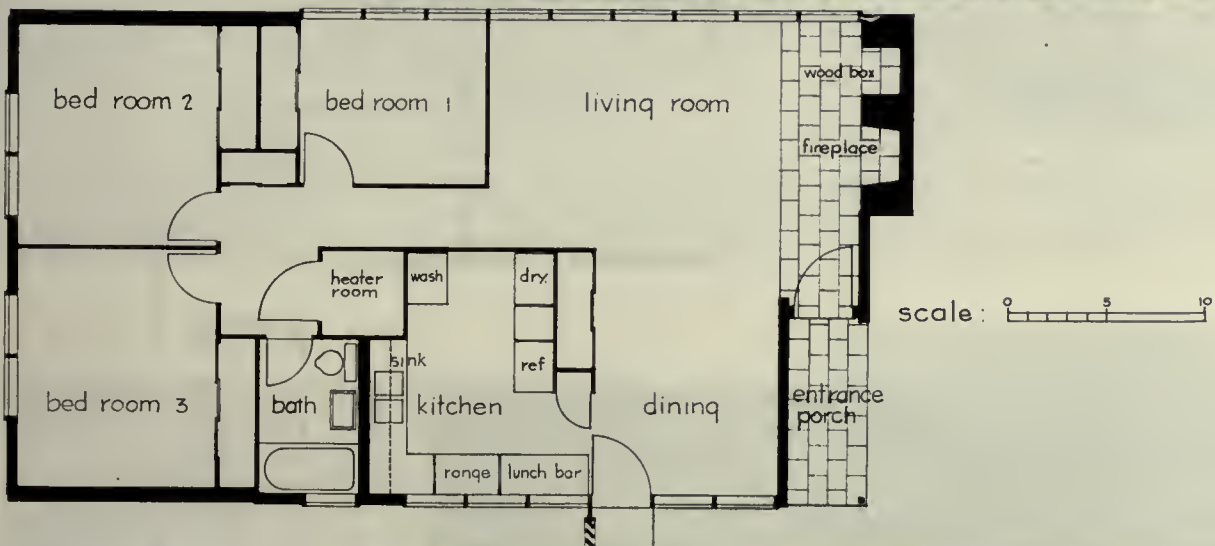


ALEXANDRIA, VIRGINIA

Defining very well the general problem that an architect faces when designing subdivision houses, Charles Goodman describes the program for Hollin Hills, Inc., as "type house for a community development designed to meet the general average living requirements of the middle income group." Better than most builders' projects, this development makes full use of its site—a wooded, hilly area in which the architect and Robert C. Davenport, the builder, saw possibilities which others had overlooked. Also better than most such enterprises, the group of houses is tied into a community, by the retention of park areas within the development for community use, and by an integrated and unified landscaping program which allows each home-owner to extend his living space to the lot lines of his property, without conflicting with unrelated plans to use outdoor space which his neighbors may have. There are three house plans used in the subdivision; the one illustrated here is the smallest type. Every possible device has been utilized to get maximum living space into a relatively small rectangular plan, to make it seem more spacious than the actual dimensions would indicate, and to give a pleasing, non-boxy appearance to the exterior. One means of accomplishing this has been the breaking of the entrance porch into a cube of the house (photograph below), which gives a pleasing openness to that

corner, and an interesting T-form to the living-dining room. For the sake of economy and to gain usable space, Goodman has done two things that are not conventional in builders' houses: corridors and hallways are reduced to a minimum (passage from the front door to the bedrooms is between the living and dining parts of the large room, and the "corridor" must be defined by furniture arrangement, as the lower picture on the opposite page indicates); storage space is provided only in the ample closets, and bulk storage must be taken care of in outdoor sheds, the purchase of which is optional. Since the placing of these storage buildings is important, and there is a desire to correlate the landscaping, each buyer is also provided with a landscaping plan for his property, designed by landscape architect Lou Bernard Voigt, complete with a planting list. How thorough these are, and how adjoining plots are related to one another is indicated by the three site plans on page 62. Careful attention has been given the construction of the houses, as well. The structural system is a wood module based on the dimensions of standard steel casement sash, with masonry buttress walls at the ends. Full advantage has been taken of the fact that standardization is possible with a group of similar houses: doors, shelving, closet fronts, and even major structural items such as roof trusses are standard throughout.



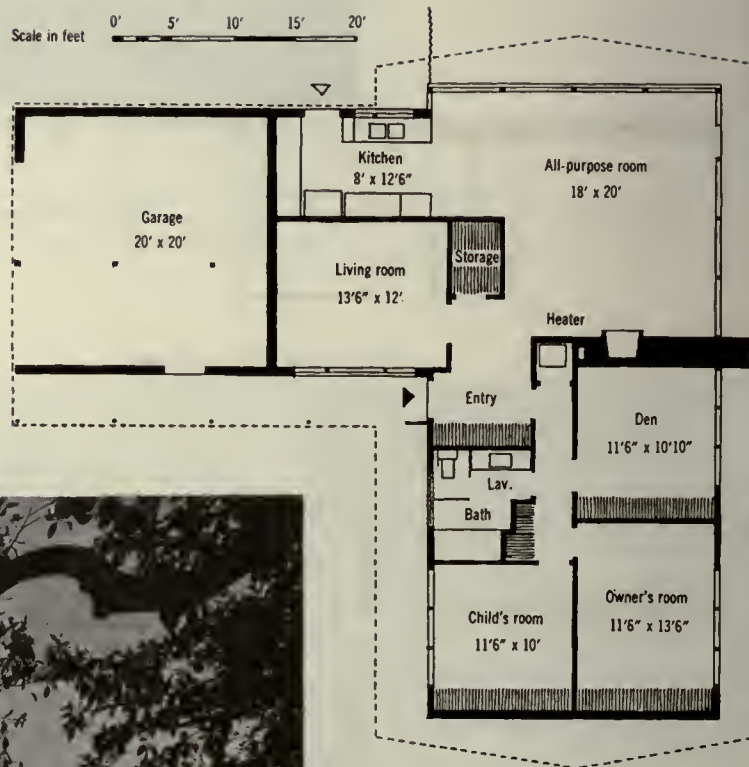


CHARLES M. GOODMAN
ASSOCIATES,
ARCHITECTS



ORLANDO, FLORIDA

The Samuel Roen house was designed for the specific use of Mr. and Mrs. Roen (they are radio announcers and conduct a daily broadcast from home); at the same time it was a prototype for a group of houses to be built as a development. The lot is only 75 x 100 feet, and the plan requirements were rather extensive. The architect's solution was to enter in the middle of an L-shaped plan, eliminating much corridor space, as Charles Goodman did in the Hollin Hills plan, but providing direct access from the entry to the bedroom wing. The only cross circulation that might occur is from kitchen to front door. The house has three bedrooms, with the Roens using one as a soundproofed "den" from which they broadcast. There was a desire to provide a second living room, which in subsequent houses might have many flexible uses (guests, hobby workroom, children's entertainment, etc.) and which, in the Roen's case, is a business conference room. The structural system is extremely simple — posts and beams, with the posts serving as window frames. Roof is mill-floor construction with the sheathing 2 x 6 inch tongue and grooved boards, providing in themselves a finished ceiling, a certain amount of insulation, and the structural surface to receive the roofing material. Fencing and planting fairly close to the house provided privacy, and at the same time shield the large glass areas from the low, hot Florida sun. Heating is a perimeter duct system, with warm air blowing up in front of the windows and glass areas and the returns in the center of the house.



ALEXANDER KNOWLTON, ARCHITECT





SAN DIEGO, CALIFORNIA

Strictly speaking, this is not a subdivision house, because it was designed to be built on individual lots, already owned by the home buyer. At the time this is written, eighteen have been built in San Diego, and five in Los Angeles, by Mr. A. C. Huistendahl — the contractor for the enterprise, who owns this particular house pictured. Without the problem of interrelationship of houses in a development, the program which was set for the architect was the same one that any builder's house project poses — a plan that will suit the average family's requirements, on an average lot. This solution is outstanding (the house won the 1950 Honor Award for residences given by the American Institute of Architects) by reason of the fact that in a small plan each room has its own full garden court and yet has privacy. Variations in the plan must, of course, be made for size and shape of the lot, views, orientation, and adjacent buildings. In this case the property is on a corner, and a series of fences have been used as part of the landscaping scheme, to shield the living room garden and the dining room terrace from the street. The two bedroom gardens on the other side of the house can be shielded from neigh-

bars' views by planting. One enters the house by a trellised walk from the garage (pictures below and across page) into a centrally located hall which connects very simply with living room, bedrooms and kitchen. Each of the four principal rooms occupies a corner of the rectangular plan, and there is thus almost no space wasted for circulation. The structure is a simple series of four large rigid-frame ribs running the long way of the house, covered by 2 x 6 tongue and grooved fir boards left exposed and stained. This frame is shown clearly in the living room photograph on the bottom of the opposite page. Since no conventional studding is required along the walls with this system, it is possible to open each room up widely to its garden or terrace, and a bright feeling of spaciousness results even in such a small plan. A number of options have been arranged for the buyer, most important of which is the fireplace, which can be included or not; others are the fences, roof insulation, choice of wall material (plywood or redwood) and, of course, utility connections, which will vary with the site. Heating is by warm air, and roof is designed so all rooms have ceiling ventilation.





A. QUINCY JONES, JR., ARCHITECT



SAN DIEGO, CALIFORNIA, *continued*

The picture at the right shows how kitchen equipment has been utilized to act as a screen between the kitchen and the dining space. The structural bents, supported by built-up posts at intermediate points, can be seen running straight through the length of the house, visually pleasant and economical. Looking back from the dining area to the kitchen, (above) one sees how easy service is either within the house or to the dining terrace outside. The smaller of the two bedrooms (at right) gains a sense of space by opening to its own private garden.



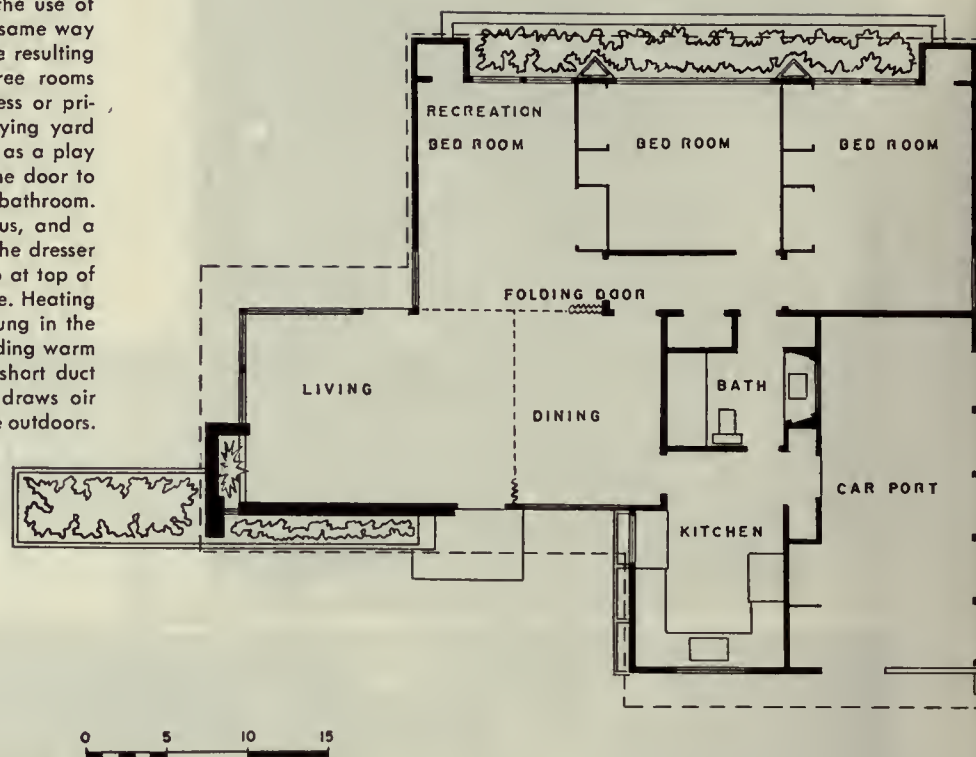
HOUSTON, TEXAS

Sponsored by the Housing Research Foundation of the Southwest Research Institute as part of its program to produce better builders' development houses, this house built and sold by the Frank Sharp Company was designed to a program which called for no more than 1000 square feet of space. Other requirements were three bedrooms, a combined living and dining room, and — not usual in a small subdivision house — flexible entertainment areas. Although it is part of a comparatively low-cost real estate development, this lot is a generous one and, as the pictures indicate, well planted with old trees. Since the street front is the northerly aspect of the lot, it was reasonable to turn the house to the back. In addition to the principal entrance into the living-dining room, shown in the overall photograph below, there is another door from the carport to the kitchen. Both of these means of access are arranged so that they do not interfere with the openness and the privacy of the other side of the house. The street front has only high windows in the dining space and kitchen penetrating the Mexican brick and silver-grey shingled walls.



HOUSTON, TEXAS, *continued*

The desire to provide flexibility of space for entertaining was solved by architects MacKie and Kamrath by making it possible to throw one of the three bedrooms into the living-dining area through the use of curtains and folding leather doors. In the same way the dining space can be separated, and the resulting possible combinations of use of these three rooms answer almost any requirement for openness or privacy. As the plan indicates, there is a drying yard adjacent to the carport which can be used as a play yard for small children. For that purpose the door to the kitchen provides easy access to the bathroom. Storage facilities in the house are generous, and a number of built-in furniture items, such as the dresser arrangement in the master bedroom (photo at top of opposite page) add to the usability of space. Heating is by means of a forced-air gas furnace hung in the attic space over the bedroom corridor, sending warm air to all parts of the house by means of short duct runs. A ventilating fan, also in the attic, draws air from the various rooms and exhausts it to the outdoors.



MAC KIE & KAMRATH, ARCHITECTS





PLAY AND DRYING
YARD

ENDING GATE



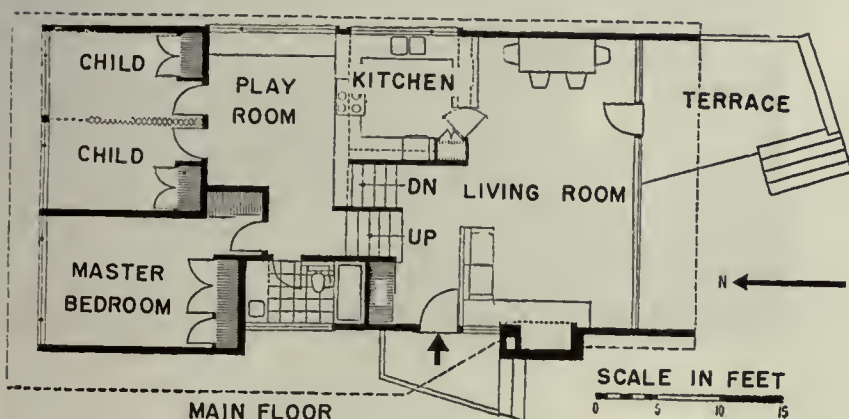
SEATTLE, WASHINGTON



Another house sponsored by Southwest Research Institute's Housing Research Foundation is located in a development built by Albert Balch, progressive Seattle home builder. This project has the somewhat typical problem of a restricted site with no particularly interesting view. A great deal of apparent space has been found in a rectangle 47 x 26 feet, by ingenious plan arrangement. The living-dining room is separated from the kitchen only by a very open storage wall (photograph at the right, this page) and full use has been made of a split-level plan by providing a supervisory opening between the upper part of the kitchen and the lower part of the children's playroom, which can be seen from the playroom side in the lower picture on this page. In the bedroom wing the two smaller

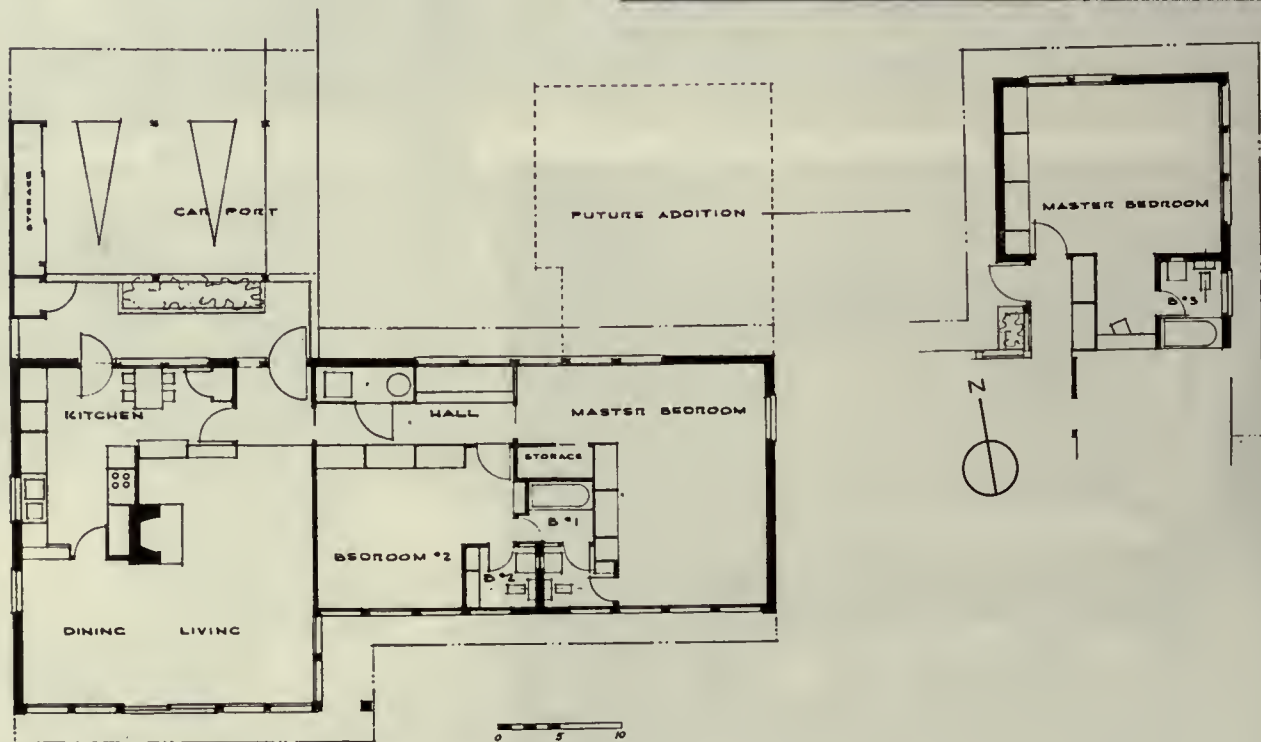
rooms can be thrown together by pushing back a folding wall, and their relationship, as children's rooms, to the adjacent playroom is excellent. In the lower-level plan under the bedroom wing, not shown here, are located the laundry and heater room, and a large "shop" which could be used for any sort of hobby. The carport is also on this level (lower picture, opposite page). As the photographs show, the house turns a quite unopen wall not only to the street, but to the rear of the lot, except for the playroom windows. The large glass openings are at the two ends — the bedrooms facing north and the living-dining room turning to the south and its own pleasant terrace. Construction is wood frame; heating is by copper-tube hot water panels in the ceiling.

CHIARELLI & KIRK, ARCHITECTS



DALLAS, TEXAS

Built for the American Home Realty Company, in the Wynnewood subdivision in Dallas, the house shown here is planned with two bedrooms to begin with and so schemed that a third can be added at any time in the future. As in the case of other builders' houses that have been described, the desire to conserve space as much as possible has led to a circulation system which reduces corridors to a minimum. Here the entrance is in an especially strategic position, leading directly ahead into the living room, and opening on one side to the kitchen and on the other to the short bedroom hall. The architects strove to satisfy a variety of possible family needs in the one plan. There is space in the kitchen, for instance, to eat not only breakfasts but full meals in rather generous comfort. Texas, the designers point out, has a climate with extremes of hot and cold, and two sorts of house will satisfy the temperature differentials — a thick-walled, small-windowed one, like the old adobe structures, or an open house through which the breezes can circulate in summer but which must be carefully and adequately heated for the severe cold spells. DeWitt & Swank chose the latter course, providing adequate cross-ventilation, catching all of the breezes that could be used, and heating during the winter with a rapidly responding forced warm air system. While the rear of the house (the southern exposure) can be developed as a private lawn or garden (top picture, at right), the street side, with the projecting carport, is planned to adapt itself to any landscaping budget, depending on how much planting the owner wants to indulge in for the sake of appearance, rather than use, on this more public side of the house (lower picture, at right). Structure is a conventional frame wall supporting prefabricated roof trusses that span the width of the house. Partitions are non-bearing, and use has been made of built-in storage units in lieu of walls.



DEWITT & SWANK, ARCHITECTS



One measure of a successful house is how thoroughly and intimately it relates to its site and to its natural setting. If house and land appear to be a unity—to belong one to the other—it is not mere chance; it is because the architect has sensitively fused the two by adapting the house to the special character of the site. This is true regardless of the nature of the land—whether it be on a hillside, or steeply sloping ground, has gentle contours, or is completely flat; whether it be naturally wooded, on a rocky ledge, with a rugged terrain, or a typical city or suburban lot. The sensitive architect will also study and design to the related factors of views or lack of view, the prevailing breeze or offending winds, the points of the compass for ideal orientation and, with privacy in mind, the nearness of or lack of neighbors. He will also consider spaces for outdoor living, as well as sun and shade in these areas. Finally, there is the use of existing trees and the interpenetration of indoors and outdoors both visually and physically (discussed more fully on page 139). This amalgamation of architecture and the surrounding environment has been skillfully developed in the design of contemporary houses.

The configuration of the land has a great deal to do with the final appearance of the house and with the space organization of the plan. An outstanding example of a happy and congenial alliance between the natural setting and the resultant house is the Tremaine house designed by Richard Neutra, which opens this section of the book. It demonstrates a completely sympathetic adaptation to the wooded rolling property, with stone masonry walls harmonizing with outcropping boulders; the interior, reaching out into the landscape by a series of terraces and decks, is further extended by connecting steps conforming to the gentle contour of the land. The outdoors with its nearby trees and a distant view of mountains infiltrates the indoors through full-height sliding doors of glass and wide window expanses. Other instances of a complete integration with the external environment is the house in Chappaqua by Architects Associated, on pages 100-103, and the one in Kentfield, California designed by Henry Hill, on pages 92-95.

Hillside sites present a very special type of problem to architects and because each such problem is an individual one, there are an infinite number of solutions. Steeply sloping sites, for instance, often result in a series of levels tying or fitting the house to the hillside, as in the house by Chiarelli & Kirk (pages 90-91) which has two levels with the main living area on top to gain a view of the lake beyond, and in the one by Francis Joseph McCarthy (pages 98-99) with a split-level scheme adjusted to the slope of the site and with openings to the north for the view and to the south for sun. Three levels, again with the living area at the top, were stepped down a rocky ledge to accommodate the house in Sausalito by Mario Corbett (pages 10-12); the additional reason for nestling this house into the ledge, which the site made possible, was to give protection from gales and fogs. Here the rugged setting of outcropping rocks and wild growth was deliberately kept unspoiled. Outdoor living spaces are much more difficult to incorporate in hilly terrain than on more level ground. This factor, however, does not daunt the imaginative architect. In the house illustrated on pages 88-89, architect John Funk carved a rear outdoor living terrace out of the hillside. Carl Maston in his own house (illustrated on pages 123-125) shaped three terraces—one for sun, another for shade, and a third for a secluded area—out of his hilly site with the help of a bulldozer.

And, as pointed out in the house designed by Gordon Drake, on pages 189-191, the architect made a virtue of a necessity by anchoring the house on one side to the hill—lifting the main living area to tree-top height for view and sunlight and extending it with a balcony.

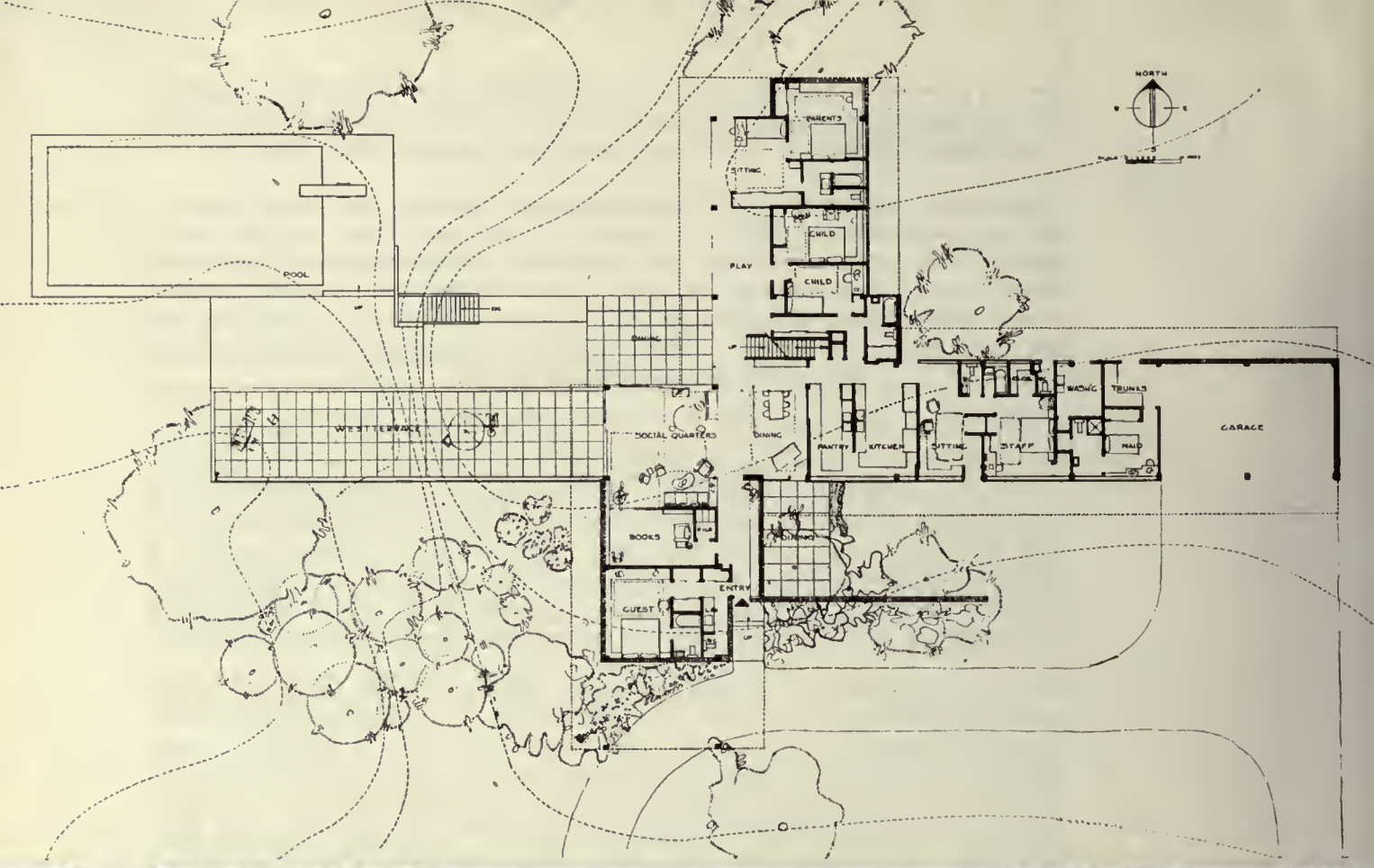
Another type of site problem—that of a narrow plateau-like strip of land backed against a bluff—was ingeniously solved by Fred Langhorst in the house shown on pages 14-15. Here the shape of the house and the interior plan were a natural consequence of the limitations of the site, with all rooms opening to the exposed side and each one having its corresponding outdoor space. To anchor it to the hilly bluff in the rear, the garage roof was extended to form a protection for the entrance walk, with the roof members tying it into the hill and with raised plant beds to prevent erosion of the bluff.

In contrast to the steep hillside is the more gently sloping property where it is possible to take advantage of the natural contour. In the Minneapolis house by Thorshov & Cerny, on pages 106-108, one sees how the roll of the property has been used advantageously to lead one easily into three separate entrances. With slightly more of a slope to work with architect Edward Stone utilized it for a plan solution with various levels which form a natural separation of the main living space in the center from the master wing on one side and the guest areas and service quarters on the other (pages 31-35). He also used the land contour to form a series of terraces, facing the major view, and set-back levels which contribute to the privacy.

On a small plot, especially on a typical suburban or city lot, the architect has an even greater challenge to make every square foot of the restricted area pay its way in living space. The problem of providing actual or illusory space becomes an acute one, demanding greater ingenuity than in planning a larger site which gives one more scope. Expansion of the living space into the outdoors is particularly desirable but the provision of privacy must be a consideration in conjunction with the expansion. Screened or walled patios or courtyards are perhaps the most successful means of achieving this on a limited piece of ground. A good example is the Seattle house by Paul Thiry (see pages 130-131) which uses the device of an almost enclosed patio garden around which the house bends on three sides, with a trellised wall on the fourth side, to make maximum use of the sixty-foot-wide city lot. Another is the Henry Hill house in Carmel (pages 58-61) which achieves privacy from the street by placing the house at an angle on the small corner site, and by screening the garden patio in front with trellis and on the side with a wall. On still another typical suburban lot, where each room of the house has its corresponding outdoor space, Gordon Drake's solution (pages 144-145) was a series of fenced courts and gardens.

Where more than one house is involved, on property shared jointly by neighbors (as in the two houses on one property designed by Raymond and Rado, pages 104-105) or in the case of subdivision developments, integrated use of the shared land with provision for individual privacy is desirable and can be achieved if there is foresight and cooperative planning. This is demonstrated in the Raymond-Rado houses referred to above where the architects, together with the landscape architects, carefully planned full utilization of the site's natural assets of evergreen trees (with informal planting of bulbs) and screening of parking and circulation areas. It is admirably illustrated on a much larger scale in the Hollin Hills development designed by Charles Goodman and illustrated on pages 62-65. In the latter case the wooded, hilly land was carefully site planned to retain the natural landscape, with park areas interlaced between individual plots.

In selecting a site and wedding to it the house which is to become a part of it, it is essential to take inventory of its diverse conditions, of its natural assets, and possible limitations. Only in this way can the house plan itself become a fully developed, organic expression taking full advantage of all its design opportunities.





RICHARD J. NEUTRA, ARCHITECT

MONTECITO, CALIFORNIA

Mr. and Mrs. Warren Tremain are the fortunate owners of one of the most successful houses yet designed by Richard Neutra. The requirement of the Tremain family — husband and wife and two young daughters — was a contemporary, fireproof house (forest fires are a threat in the area) which would not shock the rather conservative community. Neutra accomplished this not by compromise, but by a use of stone walls, slender concrete construction and light projecting roofs, with the result that the house gains its appeal and its livability through a completely sympathetic adaptation to the wooded rolling site. The view is to the north toward mountains, and the plan is so devised that one enters on the south side. The picture on the facing page shows this entrance approach, with the entry itself invitingly opening up between the outside high stone wall of the guest room and the lower wall which extends out eastward to form and protect a dining terrace. The roof of the south wing of the house, with its simple criss-cross of beams and its thin slab, projects out over and beyond this entrance in a way that seems to lead one into the house. It is on the northwest side that one appreciates most fully the unity of the house with its site. Here the "social quarters" — the living part of the residence — open to one another and extend out in a series of terraces, steps and decks that, in the words of Siegfried Giedion, the architectural historian, "form a bridge into the landscape." (Pictures above and at left; interiors are on the next two pages.)





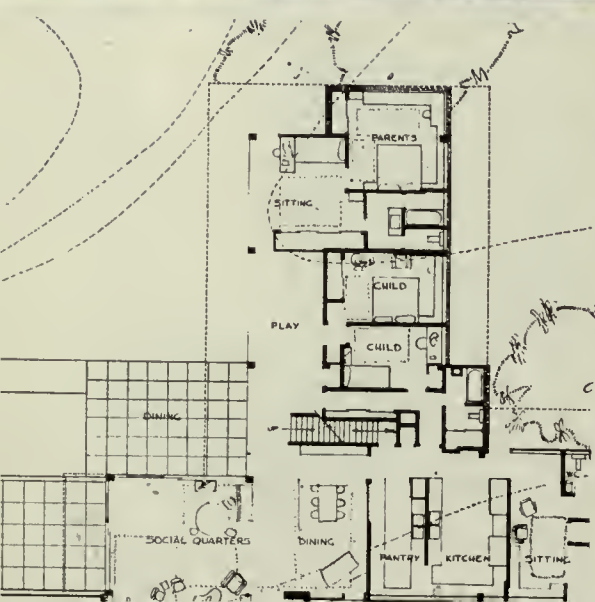


MONTECITO, CALIFORNIA, *continued*

The central and important part of the plan of the Tremaine house is the area in which social quarters of various sorts merge with one another and the site. Living and dining areas, a quiet book room, the play space for the children, and their adjacent terraces flow together not by accident and not in any contrived manner, but by reason of the lightness and airiness of the construction. The basic frame of the house is a skeleton of light reinforced concrete posts, which support girders spanning such distances that continuous glass walls of large dimensions are possible. The roof framing has been so arranged that above the girder continuous openings admit ventilation directly under the ceiling, in a manner which can be seen in the upper photograph on the opposite page. Lighting has been integrated with the design by the use of indirect cold-cathode tubes above the dropped ceilings, such as the one shown in the lower photograph opposite. These two pictures show well the closeness with the outdoors, on the one hand, and the relationship of indoor spaces, on the other. In the lower picture one sees the living room itself, with the book space on the right, partially screened; the dining space is on the left; between these is the entrance gallery. The photograph above looks toward the north side of the living room, and indicates how the interior reaches out toward the landscape beyond, making the final transition by means of a row of movable redwood "screens" which can be pivoted so that they adopt themselves to changing needs.

MONTECITO, CALIFORNIA, *continued*

Although there is, of course, more of a sense of privacy in the bedroom wing of the Tremaine house, Neutra has also succeeded in gaining a feeling of unity with the outdoors even in these rooms. The central picture on this page shows the exterior of this wing, with the roof invitingly projected out on cantilevered girders. The upper photograph is of the corner of the master bedroom, which looks southwest toward another part of the site. Below is the sitting room in this suite which the parents occupy, looking north toward the view which dominates the property and makes this orientation an inevitable one. On its opposite side this room opens into the children's play space, and in a westerly direction it overlooks the landscaped pool at a lower level.



LAKE FOREST, ILLINOIS



With a property of eighty acres Mr. and Mrs. Abel E. Fogen wanted for themselves and their three sons a pleasant place to live on a farm, with minimum upkeep, which would allow for out-of-door activities and relaxation in the country. The land is comparatively flat with a few small rises and is partly wooded. The house is situated in one of several groves of trees, and completely screened from the road which is about 1500 feet away. It is oriented to the south for winter sunshine and toward the major view which is in that direction. All major rooms face away from the entrance side (shown in the photograph at left) giving privacy to the living areas. The plan is a development of the solar house which architect George Fred Keck reports is extremely popular with the owners who understand the principles of orientation and the development of regional types of houses. A point was made of the angular placement of large glass areas (see photograph below) not only for view, but "also for the reflective values of the glass, which add a note to the spatial feeling in the house, and rid it of the monotony of the rectangular unit." Construction is of wood and stone in a traditional manner. The flat roof was designed to carry water for cooling the house in the heat of summer months.

GEORGE FRED KECK, ARCHITECT



LAKE FOREST, ILLINOIS, *continued*

Wide-spreading wings fan out from the centrally located living-dining room to afford a wider view from the living area: the study and bedroom wing to the northwest; and the service wing — with a hobby room at the far end — to the northeast. The central core, which contains the boiler room, has fireplaces opening to the living room and the study. Above and surrounding the angular wall of the fireplace in the living room (shown in photographs at right and below) is a clerestory which brings additional daylight to this focal part of the room. The master bedroom enjoys a wide expanse of view with its three-angled window wall oriented to the east, south and west (see photograph on opposite page). The family entertains a great deal, and for the occasional overnight guest the study, with its adjacent bath, serves as an additional bedroom. There is also a cottage on the property for summer guests. Radiant heating is provided through copper coils in the masonry floor which is directly on the ground. Mr. Keck reports that heat loss to the ground is negligible, and that the floors are cool in summer because they are in contact with the cool ground. A direct effort was made in construction to shelter the house from summer heat, equalizing as much as possible variations in temperature. Most lighting is indirect fluorescent cove lighting.

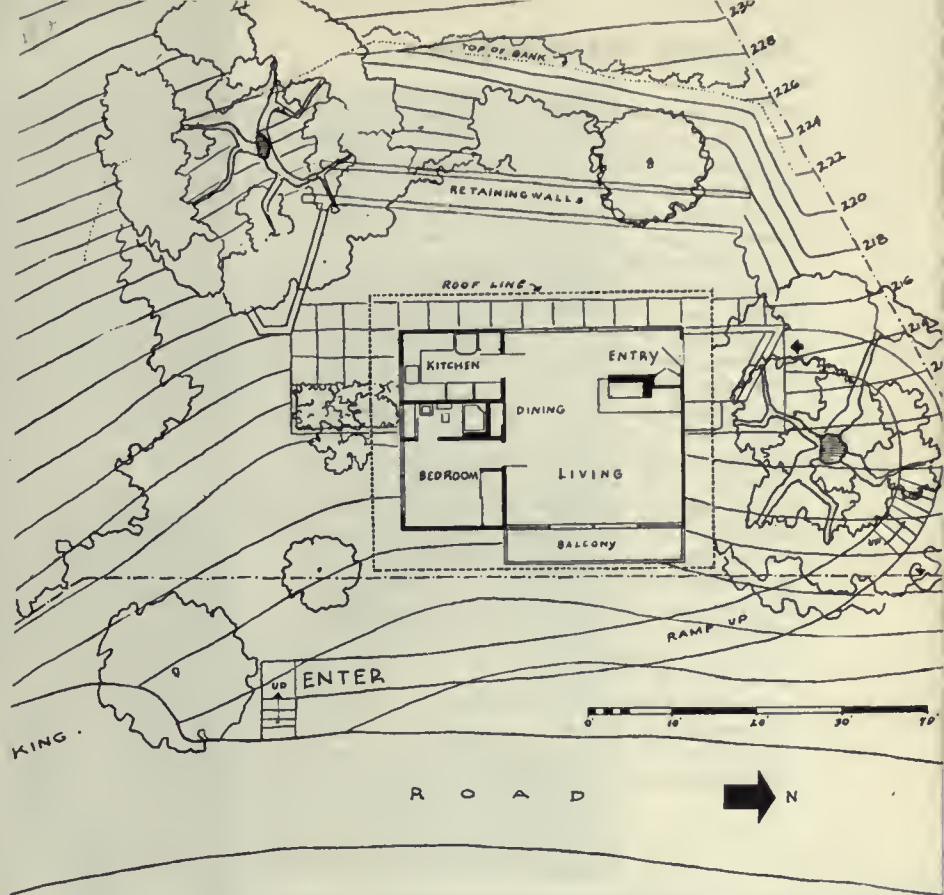






BELVEDERE, CALIFORNIA

That there is more than one way to best exploit a hillside site is ably demonstrated in this house designed by John Funk for Mr. and Mrs. W. E. Kirby. Situated in Marin County, it is oriented toward the east with a view of San Francisco Bay. To provide outdoor living space, which is a prime requisite in this mild climate, the architect carved a rear terrace out of the hillside on the west. This "outdoor room" adds a sense of spaciousness to the small compact house of only 726 square feet. By the use of an all-glass wall and glass doors opening to the terrace, it actually becomes an extension of the living room. Since the eastern exposure of this room is raised well above the road because of the hillside slope, it was possible to make this opposite wall of glass — for a wide view to the Bay — without loss of privacy inside. This wall, opening to a cantilevered balcony, also increases the apparent size of the main room. Construction is wood frame, with redwood finish both on the exterior and interior walls; ceilings are of pine. Heating is by a warm-air gravity system located in the center of the house to serve the three rooms. Wide roof overhangs give protection against weather.

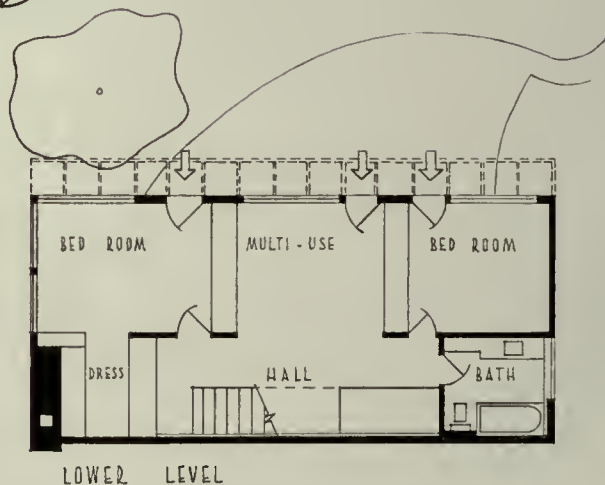
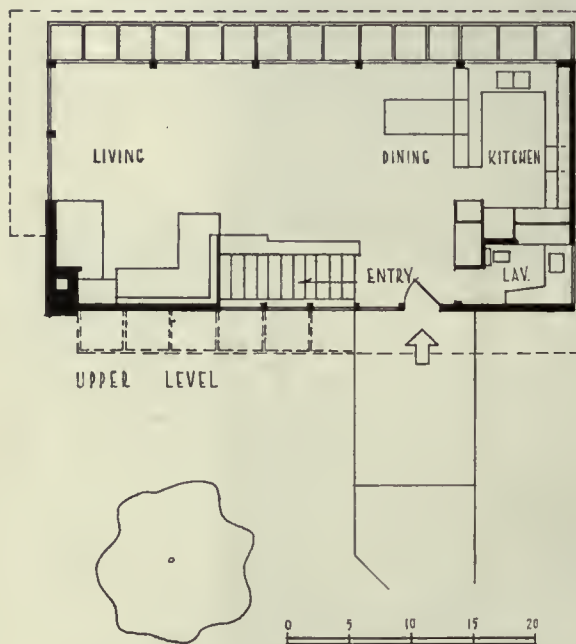


JOHN FUNK, ARCHITECT



BELLEVUE, WASHINGTON

To make the best possible use of a narrow (sixty-five feet wide) steeply sloping site, architects Chiarelli and Kirk built this small house on two levels and placed the living area on the top floor for full enjoyment of the dramatic view of Lake Washington. The entrance is at this upper level, and gives direct access to the lower bedroom floor by a stairway which is screened from the living room by a partition containing bookshelves and storage cabinet (as shown in the two photographs at right). The two bedrooms and the multi-use room between each open to the garden and a terrace, which because of its elevation (the site has a twenty-five foot slope) also has a full view of the lake below. Large glass areas on the western side are shielded from glare of sun and frequent rains by wide roof overhangs. Louvers under the fixed glass panels provide ventilation. To meet Mr. and Mrs. Donald McLean's requirement for a large living space for entertaining, the architects planned the top floor as virtually one big room with a partial partition between it and the compact kitchen. The slope of the shed roof, carried through on the inside, increases the sense of spaciousness and helps open up the view to the west. Walls of vertical cedar siding and large pressed-wood floor tiles give a feeling of warmth to the interior. Exterior walls are of red cedar. Heating is by means of electric panels in the ceiling of upstairs and in the floor slab downstairs.

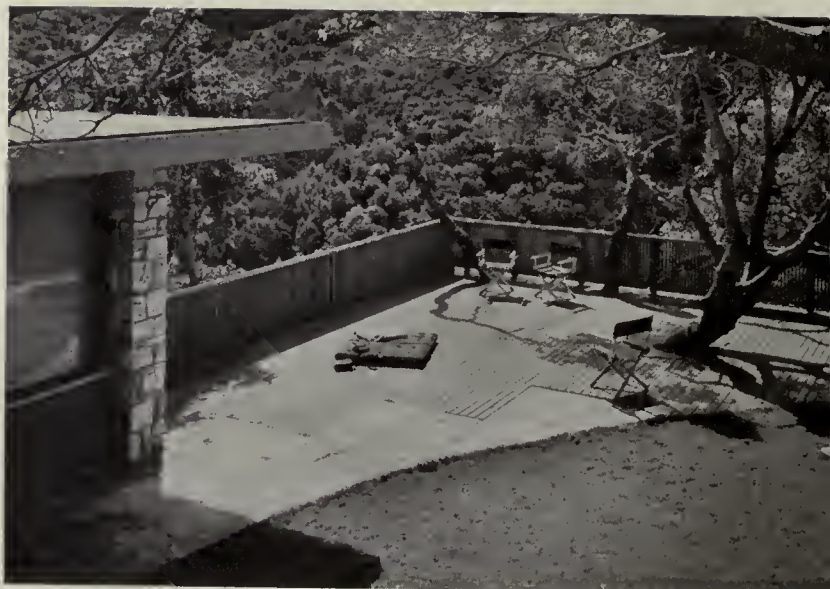


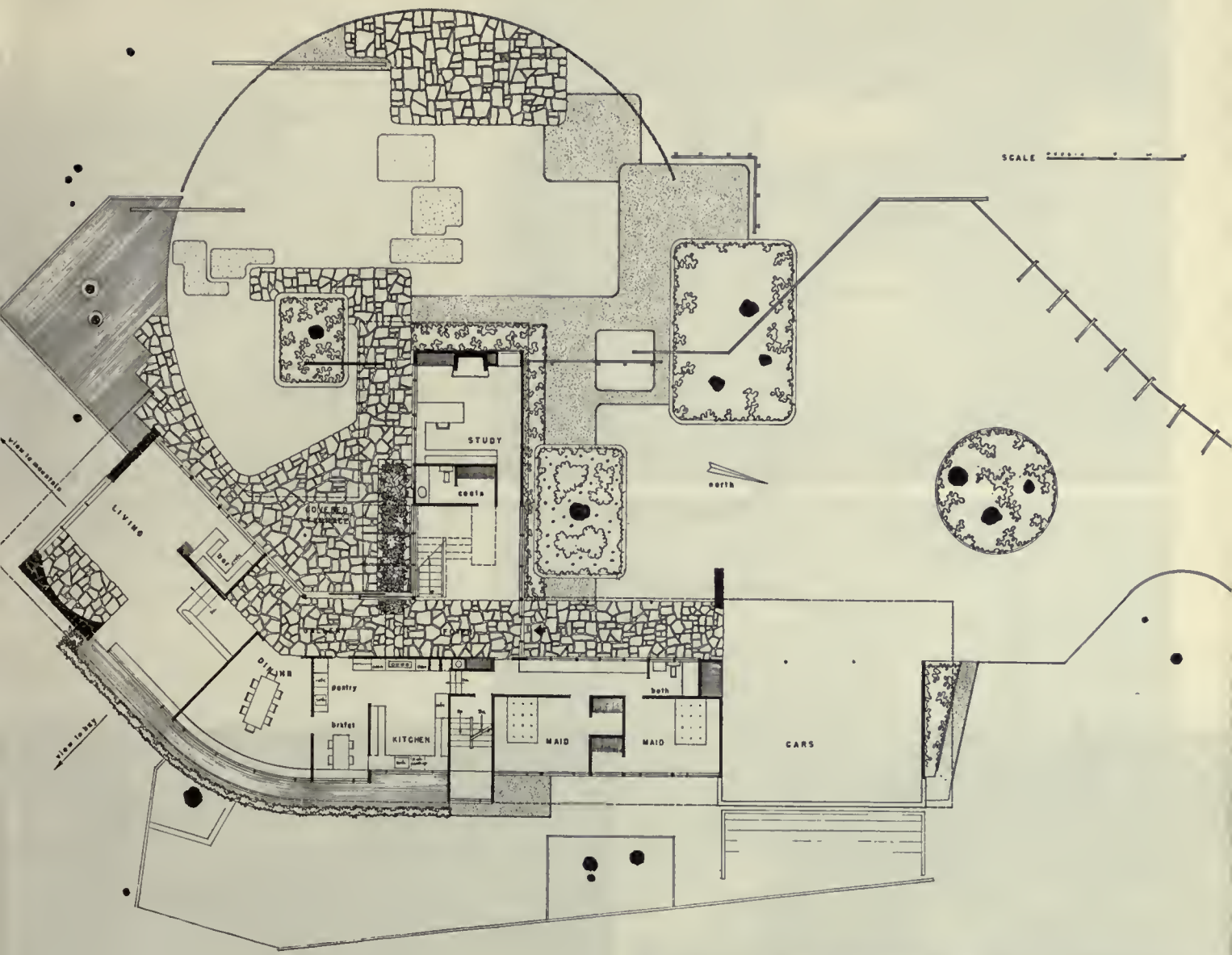
CHIARELLI & KIRK, ARCHITECTS



KENTFIELD, CALIFORNIA

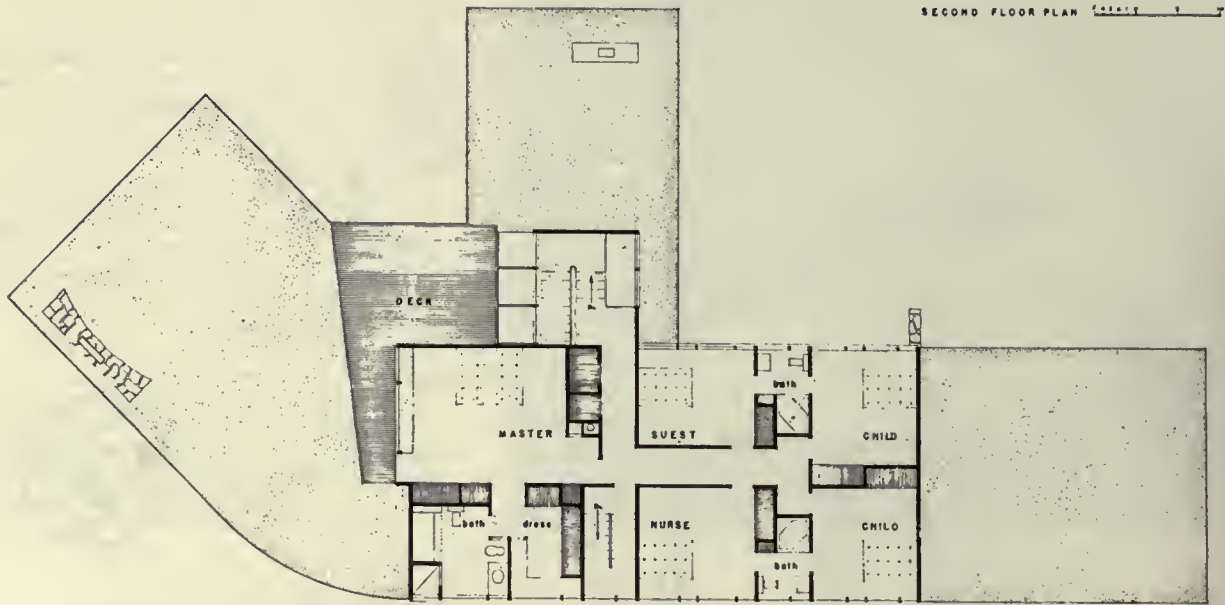
The site of the John Cosmas house is what the designer, Henry Hill, describes as an "incredibly beautiful" knoll which falls off steeply to south, east and west. The house was deliberately not placed on the crest of the knoll, but was situated as far over on the southeast slope as possible. The desire of the owners, the designer, and landscape architects Eckbo, Royston and Williams, was to give expression to the site, which makes you "want to continue to see over more and beyond." The plan does this by leading one under the second floor overhang (picture below) into a foyer off which rises a stair to the second floor (picture on opposite page), through a glazed gallery which leads to the living room. Beyond is a partially paved, partially board-decked terrace (picture at right) which looks up to the top of Mt. Talmalpais and down to the valley floor 400 feet below. In this progression into the house, the floor steps down but the ceiling continues at the same level to give a sense of continuity. When the living room is reached, ahead lies the panoramic view, emphasized by the wide opening at the far end of the room, framed by the stone of the fireplace on one side and a stone panel at the corner of the room on the other side.





HENRY HILL, DESIGNER





The location of the second floor in relation to the total house is illustrated by the picture at the left below. The dining room-living room wing (extending forward at the right in the picture) and the wing which houses the study (stretching out to the left) are one-storied. The second-floor rooms are over the service wing and the entrance gallery, so that one stair comes up for the family from the foyer and a service stair rises from the corridor in the maids' quarters. The deck which is shown in the photograph wraps around two sides of the master bedroom, and extends almost up to the stair enclosure, covering a terrace below it on the first floor, outside the entrance gallery. The picture directly below shows the openness of the stair, the terrace beyond it, and, through the glass wall, the edge of the second floor deck above. At the right, above, is a view of the master bedroom with its fully glazed south wall. Other pictures on this page are of the dining room, with its wall curving as the house plan fits itself to the knoll; and, at the bottom, the view end of the living room with the fireplace hood of crimped copper against rough stone masonry. Various woods have been used on the non-masonry walls — redwood, Philippine mahogany, Korina, and birch.



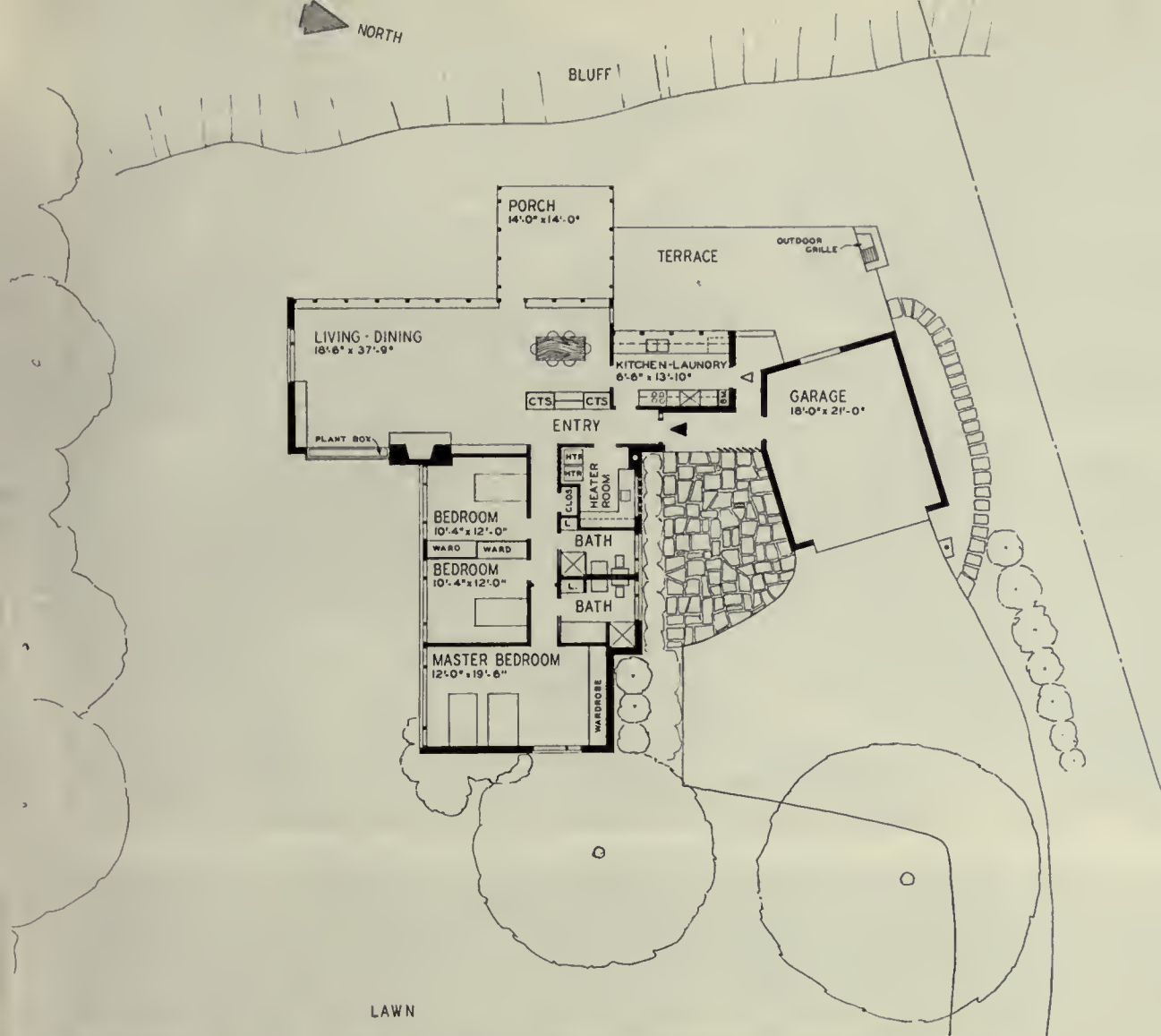
HIGHLAND PARK, ILLINOIS

With hills and bluffs at a premium in a region of the country which is chiefly flat prairie land, the owners of this house wanted to take full advantage of a view overlooking the Skokie valley even though it was toward the west. Architect Morgan Yost placed the house on the highest point of their site, and faced the living-dining room so that Mr. and Mrs. Norman Dena could fully enjoy the view of the valley and of the orchard in the foreground. An open porch and terrace are also on this side of the house. The porch roof and a wide main roof extension protect the window walls from too much glare and heat. The bedrooms in this T-shaped plan have a more intimate view to the south into a pleasantly wooded glen. Although the house was designed for a couple with one grown son living at home, they wanted a third bedroom for the visits of the married son and his family. Separate forced warm-air heating plants serve the cross and the stem of the T-plan as solar conditions are different in the two areas. All windows are fixed, with ventilation by louvers. Construction is solid brick masonry on a concrete slab.



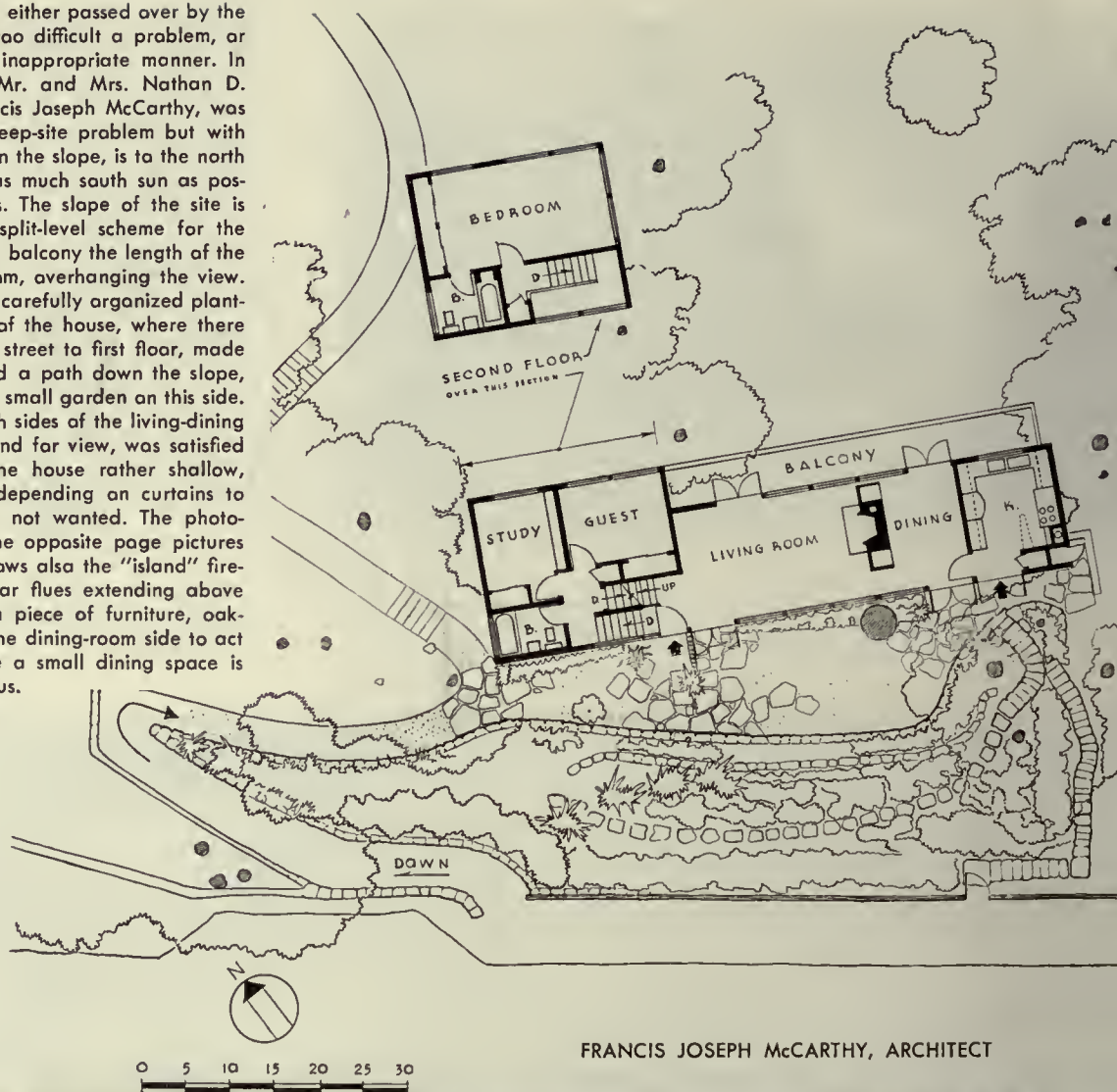
L. MORGAN YOST, ARCHITECT





BELVEDERE, CALIFORNIA

Very steep sites are usually either passed over by the home builder as offering too difficult a problem, or used in an awkward and inappropriate manner. In designing this house for Mr. and Mrs. Nathan D. Rowley, the architect, Francis Joseph McCarthy, was faced not only with this steep-site problem but with the fact that the view, down the slope, is to the north while the owners wanted as much south sun as possible during winter months. The slope of the site is utilized by developing a split-level scheme for the bedrooms, and extending a balcony the length of the living room and dining room, overhanging the view. A series of stone walls and carefully organized planting on the southwest side of the house, where there is a fifteen-foot drop from street to first floor, made it possible not only to wind a path down the slope, but also to find space for a small garden on this side. The desire for glass on both sides of the living-dining area, for solar radiation and for view, was satisfied by making this part of the house rather shallow, opening both sides, and depending on curtains to screen sunshine when it is not wanted. The photograph at the bottom of the opposite page pictures this very open space. It shows also the "island" fireplace, with only the circular flues extending above the top of what is truly a piece of furniture, oak-encased with cabinets on the dining-room side to act as a buffet. By this device a small dining space is made to seem more spacious.

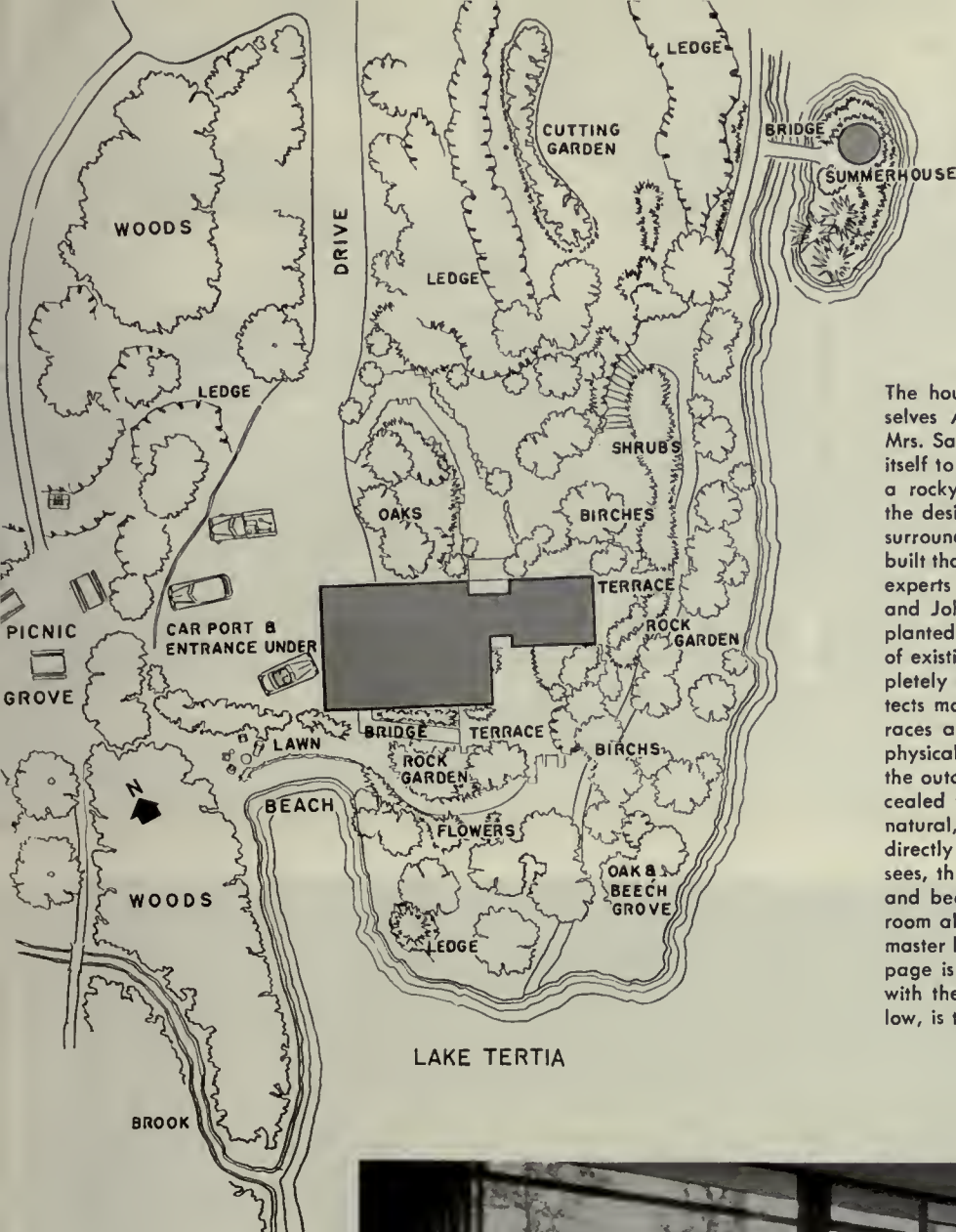


FRANCIS JOSEPH MCCARTHY, ARCHITECT









The house that a group of architects calling themselves Architects Associated designed for Mr. and Mrs. Samuel Dretzin was carefully planned to adapt itself to its five-acre woodland site thrusting out from a rocky ledge toward a private lake; furthermore, the desire was to make the house fit quickly into its surroundings, and within the year after it had been built that aim had been accomplished. Two landscape experts — Frederick V. Guinsburg, for rock gardens, and John Dunn, for landscape planting, created a planted surrounding for the house (making full use of existing trees and rock ledges) which weds it completely to the site. In planning the house, the architects made this possible by providing a series of terraces and steps and stairs which lead visually and physically from the various rooms of the house to the outdoors. The entrance, on the north, is well concealed from the road by a rock ledge with its own natural, colorful planting. The entrance hall leads directly into the living area, and one immediately sees, through glass walls, the rock gardens, the oak and beech groves, and the lake beyond. The guest room also opens from the entrance hall, as does the master bedroom, with its own rock garden. Across the page is a view of the south, lake side of the house, with the dining-living spaces projecting forward. Below, is the living room end of this large open space.

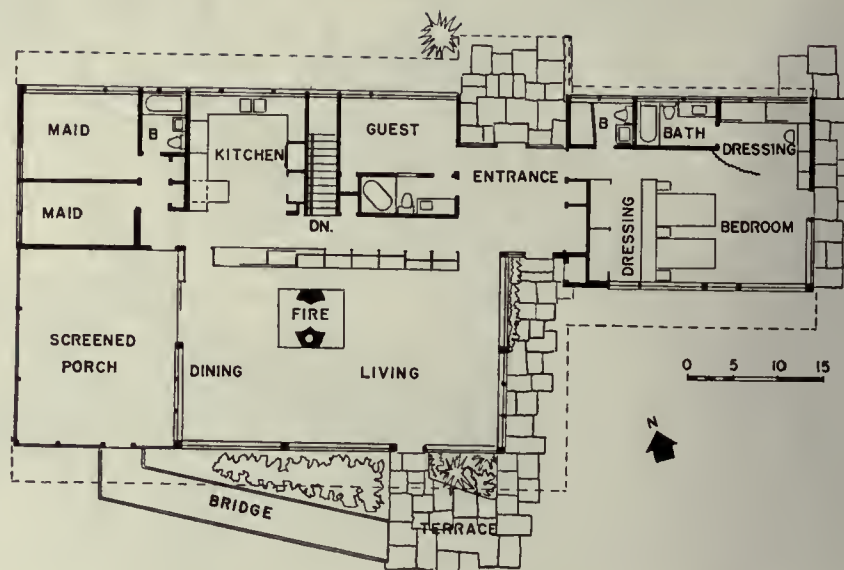
LAKE TERTIA



ARCHITECTS
ARCHITECTS ASSOCIATED,
KATZ
WAISMAN
BLUMENKRANZ
STEIN
WEBER

CHAPPAQUA, NEW YORK, *continued*

The plan on this page and the photograph at the right, above, indicate how the living-dining room extends itself to the west by means of a screened porch. Outside the living room is a terrace at the upper level, and from the porch a wooden suspension bridge leads down to the lake. The architects' handling of the living-dining-kitchen space is ingenious. Structurally it is one large area: the subdivisions are accomplished by the free-standing fireplace between dining and living rooms, and a storage wall opening on one side to living and dining rooms and, on the other side, to the kitchen and closet-lined corridor. In the same way, in the master bedroom suite, cabinets which are not structural members form the division between sleeping and dressing spaces. The result of coordination of interior requirements and the basic architectural design in this manner is that an unusual degree of harmony exists between the house, its furnishings and the site. Lighting has also been carefully considered in the Dretzin house. Fluorescent lights set on the storage wall provide diffused indirect lighting, and spotlights for reading and card-playing, as well as pinpoint concealed lights directed on the fine paintings owned by the Dretzins, provide supplementary illumination in the living room. Outdoor lighting on the surrounding gardens and natural landscape brings site and house into relationship at night.







GREAT NECK, LONG ISLAND

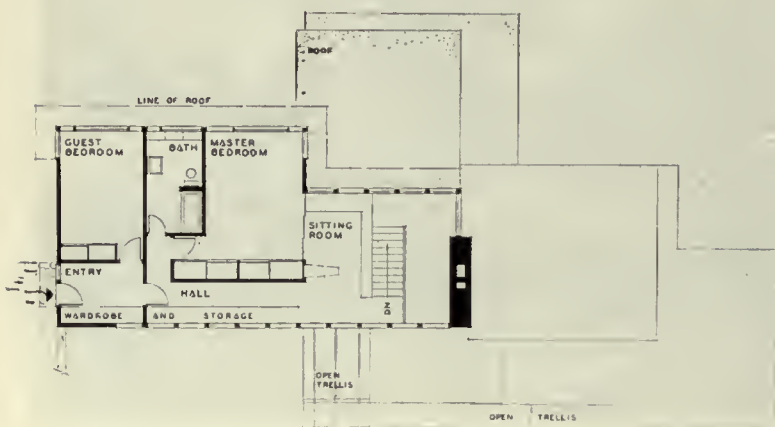
The planning of a house in relation to its site, and the planting of that site, is often an individual problem, with relationship to neighbors and the community either overlooked or a thing of chance. (The overall planned landscaping of Charles Goodman's Hallin Hills project on pages 62-65 is an example of the exception to this rule). Here, for the Sidney Rosens (house on the right, or east, in the plan below) and the Dan Krakauers (left, west house) Antanin Raymond and his partner, L. L. Rada, had the opportunity of coordinating the site planning — including the location of the houses on the land — for two close neighbors who built at the same time. Although much of the planting still has to grow to be effective (as the photograph on the facing page indicates) landscape architect James Rose, who collaborated, has carefully planned full utilization of the site and, with the architects, the greatest degree of indoor-outdoor circulation. The site plan below shows, for instance, the screening of the parking areas of the two houses, the definition of the terraces with planting, the bordering of lawns and smooth green areas in free and interesting shapes, the way "naturalized" evergreen planting (with spring bulbs sown underneath the trees) has been allowed to intrude in a casual manner at several edges of the site. The two houses are similar in overall plan, but quite different in some detailed respects. The Rasen house, with its long service wing terminating in the garage, is approached by a protected walk from the driveway entrance (upper photograph at the left). Entry to the house is at a point between the living-dining space (middle photo at left; the dining table is behind the free-standing fireplace) and the bedroom wing. Within the bedroom area the arrangement of the two children's rooms is particularly noteworthy; they can be separated or thrown together and opened into the corridor as one large play room by the use of sliding partitions.



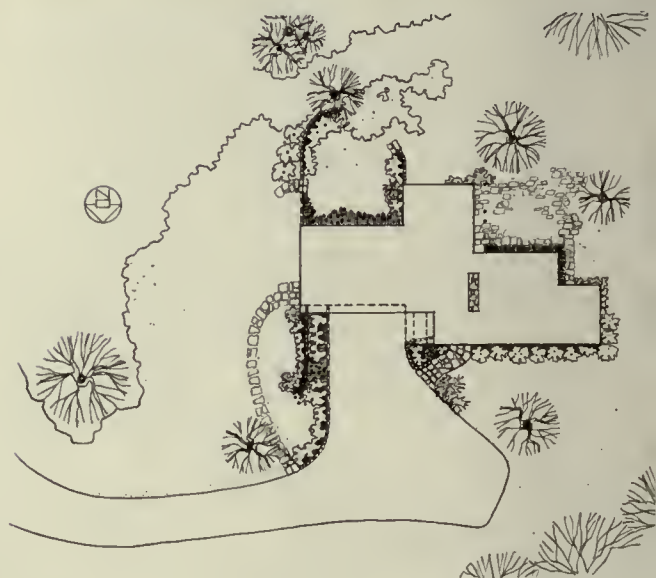
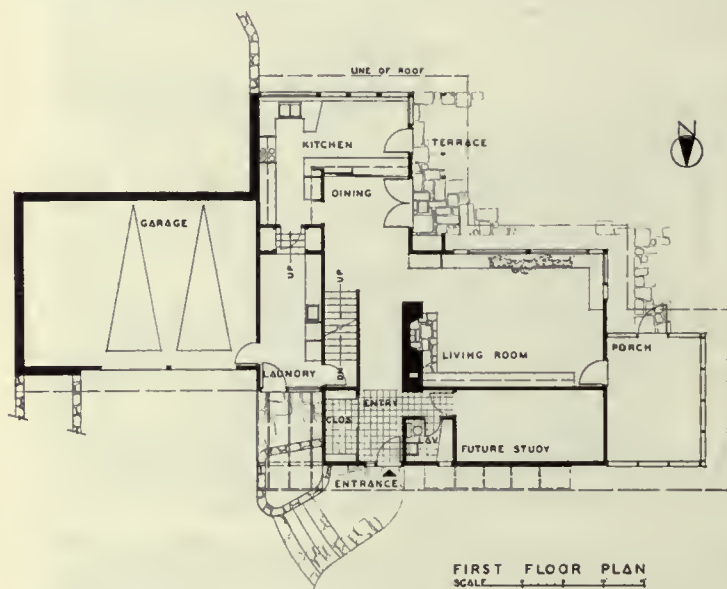


ANTONIN RAYMOND & L. I. RADO, ARCHITECTS





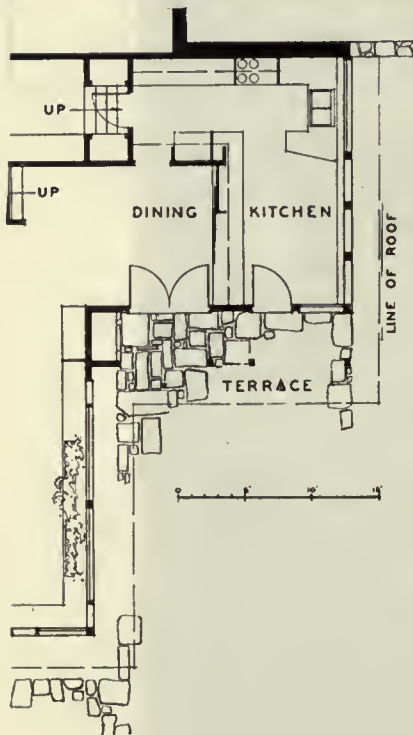
THORSHOV & CERNY, ARCHITECTS



It is one thing to adapt a house to its site in an esthetic sense; it is another to take advantage of terrain (or overcome the limitations of a difficult property) to make special and unusual requirements of the program function efficiently. The house designed for Dr. and Mrs. Allan Challman by architects Thorshov & Cerny accomplishes both these ends. The Challmans live alone except when guests or their children or grandchildren arrive for visits; Dr. Challman is a psychiatrist who conducts some of his practice at home; Mrs. Challman has an active interest in gardening. Plan requirements were fixed by several factors: the site is in a section of undeveloped woods, adjacent to one of the lakes that make Minneapolis such an attractive city; the property is rolling ground, with the uninterrupted lake view to the west (to the right on the plot plan above); neighbors are few and distant. The general plan solution is a house which opens to the south for sun and enjoyment of gardens, and

yet takes full advantage of the lake view to the west by turning one side of all major rooms in this direction, and appending a screened porch at the westerly end of the house. Entrances to the house have been adroitly arranged to fit the contour of the property. Since the driveway comes in on a level sweep, it was reasonable to keep service entry and the main entrance to the house near each other; yet notice, in the photograph above, how a slight rise in the site has been banked to make an attractive stone-stepped walk to the principal entrance, raising it above and away from the lower door to the laundry and the service center of the house. The third entry on this side of the house is at the east end, to what is now the Doctor's office and will ultimately be a guest suite. This is approached by a walk which rises up from the driveway (extreme left of the picture above) and swings around away from the house to approach it from the east with complete privacy.

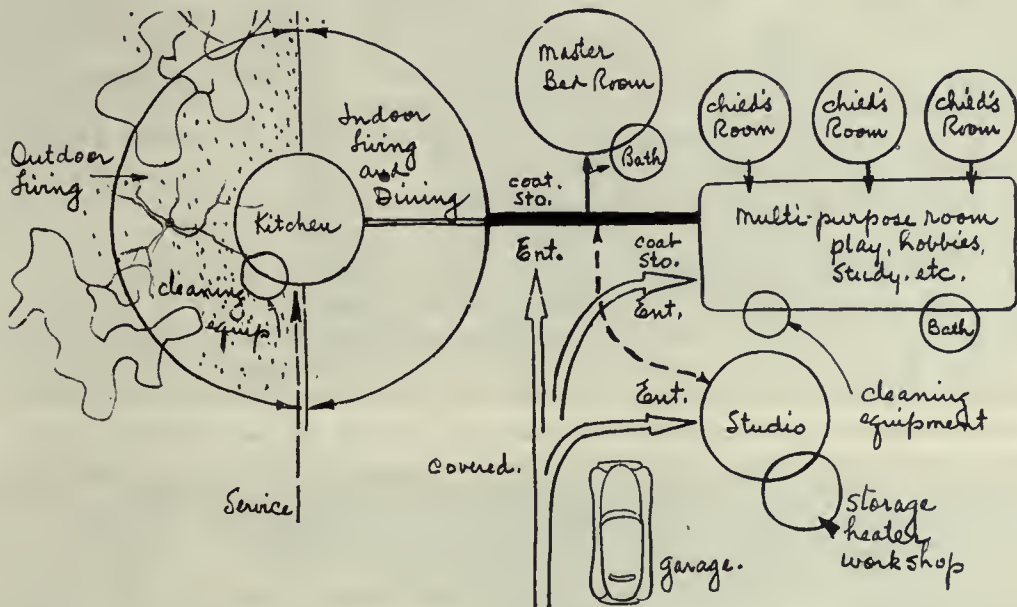




Careful attention has been given to detailing of storage units in the kitchen. Top picture shows pass-through from kitchen into the dining room; the curtained wall consists of large glass doors opening out to the dining terrace, which is shown from the outside at the right of the lower picture, in the foreground of which is the living room window looking to the lake.

After the program for a house has been thoroughly analyzed, and after the general relationship of the house to the site has been established, the preliminary space planning begins.

It may have been noticed by this time, that the words "space" and "area" are used a great deal to describe the places where certain things happen in the house plan. Architects prefer, usually, to use these terms to "room." A room has too much the connotation of a tightly enclosed and partitioned cubicle. What the architect designing today's houses is talking about is literally *space*. One might imagine an unpartitioned rectangle which was a basic house. Lines might be drawn on the floor, and the owner might say, "This corner will be my dining



space, this my 'living' space, this the space where I will sleep, and over here in the corner will be my cooking space." Just by placing furniture in those parts of the rectangle an elementary kind of space organization would have resulted. The next step might be to mark divisions between those areas by placing cabinets and cupboards and other screening pieces of furniture on the dividing lines between the various spaces. (This was almost precisely what was done in the case of the house by Robert W. Vahlberg on page 13). So the old names *living room* and *dining room* and *entrance hall* no longer apply.

Many architects begin this phase of planning by drawing a lot of circles labeled "indoor living", "play" and so on, and trying them in various relationships, connecting them simply by single lines, like the diagram on this page, developed by Hugh Stubbins, Jr.

Ultimately this preliminary study of space relationships will develop into a plan similar to the Stubbins house shown on page 46. The lines in this diagram are important. They are the graphic representation of *circulation*—an essential factor in planning space relationships. The lines must not cross, they must not conflict, they must not be too long. Circulation is the way one gets into certain spaces, gets out of them, and gets from one space to another. Circulation can mean hallways (which are often unpleasant and wasteful) or it may mean planning a

space which serves other purposes but can be used as a means of access as well. In Breuer's Geller house on pages 26-28, the children's play space is also circulation to the children's bedrooms; in Thiry's McDonald house in Seattle the dining space becomes a circulation gallery leading to the bedroom wing (pages 130-131).

The first element of circulation to consider is the entrance to the house and access from it to the other areas of the plan—a problem often poorly solved even in otherwise excellent houses. The observant reader may notice in this book several instances of houses entered at a point which makes it necessary to travel the length of the living room to reach the bedroom area. Next is the corridor, which can seldom be eliminated when several rooms of the same general purpose, such as bedrooms, are strung out in a line. A good plan will keep wasteful corridor space to a minimum, and make use of it by lining it with storage units (as in the Langhorst-Ker house on pages 14-15) or by converting some part of it to work or play space (as Raymond and Rado did in one of the houses on pages 104-105).

The circulation problem most often overlooked, or not solved well, is the one of movement *within* rooms. How easily can one get from one spot to another in a living room, without zig-zagging around furniture or disturbing other people; how easily move, for instance, from the place where the piano is to the fireplace furniture grouping, or to an end of the room used for dining, or to the view or the terrace? Finding a good solution to this problem requires a study of room relationships, relationships between activities within a room and, above all, between the things that happen inside the walls and those that happen outside.

It is not only circulation that makes space relationship work or fail to work. Spaces in a house have a functional relationship to one another. Obvious instances are that the dining room should be adjacent to the kitchen and bathrooms near sleeping quarters. There are more subtle functional affinities, however. For instance, architects Wurster, Bernardi & Emmons placed the kitchen in the Smith house (pages 111-113) so that it is the focal point of the family living arrangement. Not every family would want this; the Smiths did, and it was made possible by a very careful study of space relationships. See as another instance how the Hunters (pages 114-115) arranged a space at the end of the kitchen so that it could be used as a child's play spot when supervision from the kitchen was reasonable or necessary.

There is an emotional relationship of spaces, in addition to the functional one. It is possible to give the impression of enlargement of space, by the way spaces are joined and related to one another. To take again an elementary instance, the now common integration of the dining and living rooms into one or contiguous spaces makes each of these two "rooms" seem larger. For a much more advanced use of this principle, see how the plan of the Ekdale house by Spaulding & Rex (pages 116-119) makes the entire area covered by the inverted truss roof seem infinitely spacious as it wraps around and swallows up the kitchen area.

Under the heading of THE PROGRAM mention was made of changing needs in today's living. This factor inevitably results in the plan which makes various uses of a space possible. Many attempts have also been made to plan a house so that it can grow and expand as the family grows. A special comment on this problem appears a little later in the book, as does a discussion of the relationship of indoor to outdoor spaces. Today's architects have been able to approach these many problems of space relationship with freedom and imagination, and it is a good thing that they have been so freed to experiment in circulation and functional and emotional relationships, because other aspects of today's design have increased these problems, by demanding orientation toward sun and view, by asking for ventilation and air circulation as well as human circulation, and in many other ways. All these things must work together, but always with good relationship of usable spaces.

STOCKTON, CALIFORNIA

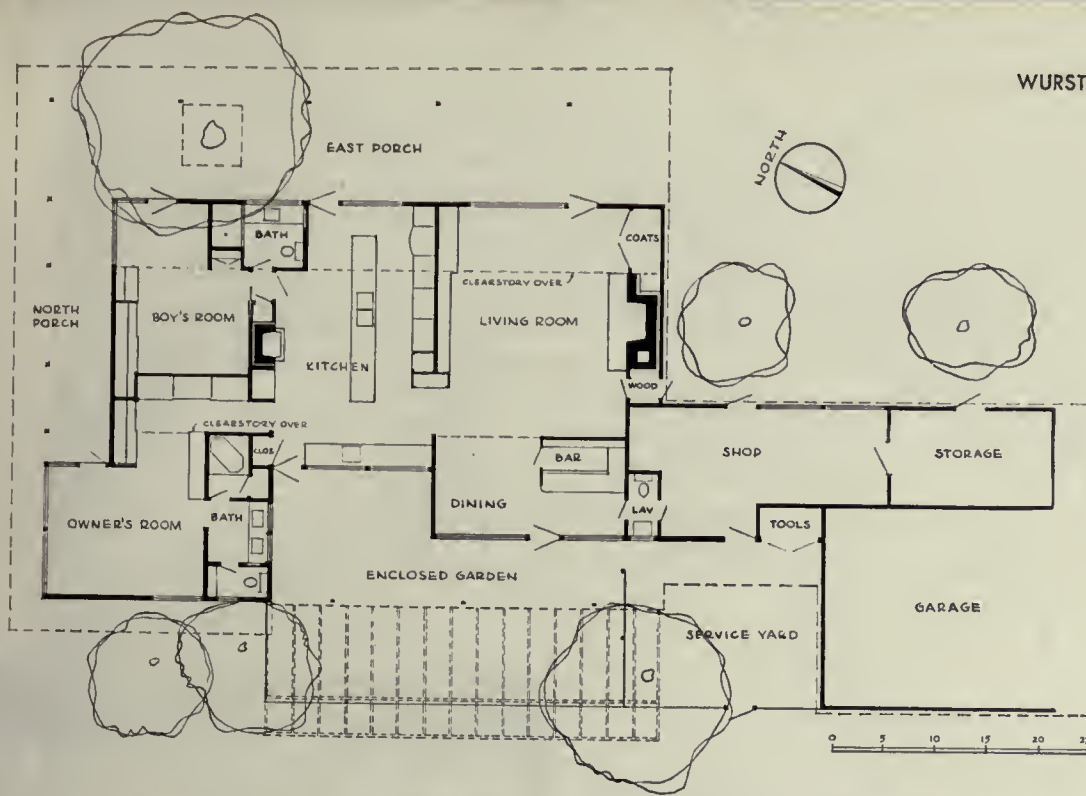


The space organization in this true farm or ranch house centers entirely around the kitchen, which was the basic requirement of the clients, Mr. and Mrs. Albert M. Smith. Wurster, Bernardi and Emmons faithfully followed Mrs. Smith's wishes — based on her own series of studies of the plan — to have the kitchen and work areas in the center of the house with living space on one side and sleeping on the opposite side. This central portion is similar in height and finishes to the rest of the house and has sitting and dining space, making it virtually a "country" kitchen. The secret of success in using this room as the circulation and focal point is its generous size. For informal entertaining guests may relax on a comfortable built-in sofa facing the raised fireplace which is used for charcoal broiling (photographs on this page). For large-scale entertaining the dining area and its built-in bar are used jointly with the living room, both of which open onto terrace porches. Because of the long hot summers in San Joaquin Valley, the owners did not want the direct rays of the midday or afternoon sun coming into the house. A deep overhang protects the wide porch to the east and the windows of the living room and work center from glare (see photographs on preceding page). On the west a partially roofed garden terrace is additionally sheltered by a trellis extending from the overhang and a cedar board fence at one end. Two high clerestory strips of glare-resistant glass, extending the length of the house, give a diffused light and an atmospheric quality of coolness. All walls are of California incense cedar, used vertically. Ceilings are of rough-faced redwood boards. All wood is kept natural; the exterior treated with clear preservative, and interior walls with colorless wax. Except for the dining table, piano and chairs, and a few coffee tables, everything in the house is built-in and was designed by Mr. Smith to fit various special uses. All cabinet work is cedar, except for birch cabinets and counters in the kitchen.



According to the architects the use of wood throughout, "gives a feeling of one episode and is one secret for bringing dignity and character into structures that are either small or of necessity must be divided into small and various shaped compartments. The relief comes from the varying heights, from the changing outlooks and in the furnishings."





Enclosed Garden

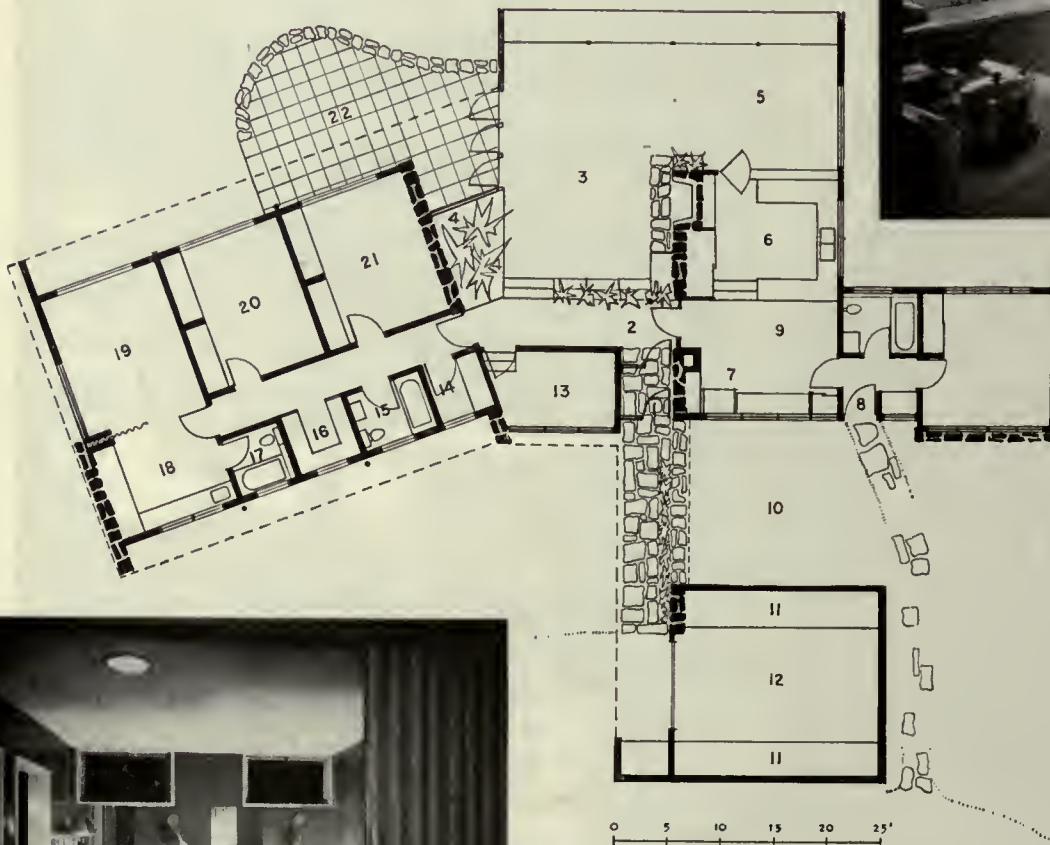


HANOVER, NEW HAMPSHIRE

At first glance this seems like a fairly conventional house plan, with a large living room facing the Vermont hills to the west, a bedroom wing slanted so that the rooms face more to the south, and a service area at the north end of the plan. However, Dr. and Mrs. John Murtagh have many unusual aspects of space organization subtly designed into their home. For instance, since the doctor often receives night calls, the master bedroom-dressing room arrangement is such that a sliding wall can be pulled across between the two rooms; this has the additional advantage in the New Hampshire climate of providing a warm place to dress on cold mornings. Also worth noting is the arrangement of the kitchen and laundry, with a corner of the laundry room (behind the counter cabinet with drawers shown in the photograph below, right) used as play space, under supervision from the kitchen.

Finally, the bedroom to the north, which is now occupied by a living-in baby sitter, is so arranged with its own bath and its own entrance, that it can be rented at same time in the future. The reasons for the west and south orientation should be clear from the photograph (at the bottom of opposite page) which shows the view toward which the site gently slopes. The house is of steel frame with open-web joists, a wood curtain wall and some stone-wall accents filling out the frame. Radiant floor panels, combined with a studied use of solar radiation, have resulted in a most economical heating system. The "box" that frames the west window helps cut western sun, and provides a place for exterior blinds. Openings in the north and south walls of the living room have been carefully placed for maximum ventilation to entice prevailing breezes in the summer.

E. H. and M. K. HUNTER, ARCHITECTS



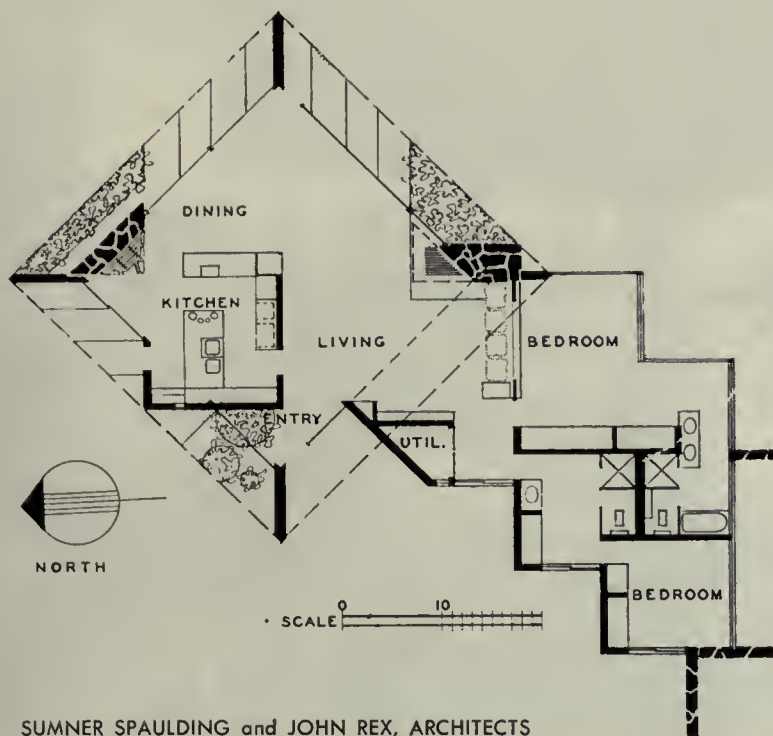
1. Entry
2. Hall
3. Living Room
4. Planting Box
5. Dining Room
6. Kitchen
7. Laundry
8. Service Entry
9. Children' Play Area
10. Service Yard
11. Storage
12. Garage
13. Heater
14. Coats
15. Powder Room
16. Linen Closet
17. Bath
18. Dressing Room
19. Master Bed Room
20. Bed Room No. 2
21. Study
22. Terrace







SAN PEDRO, CALIFORNIA



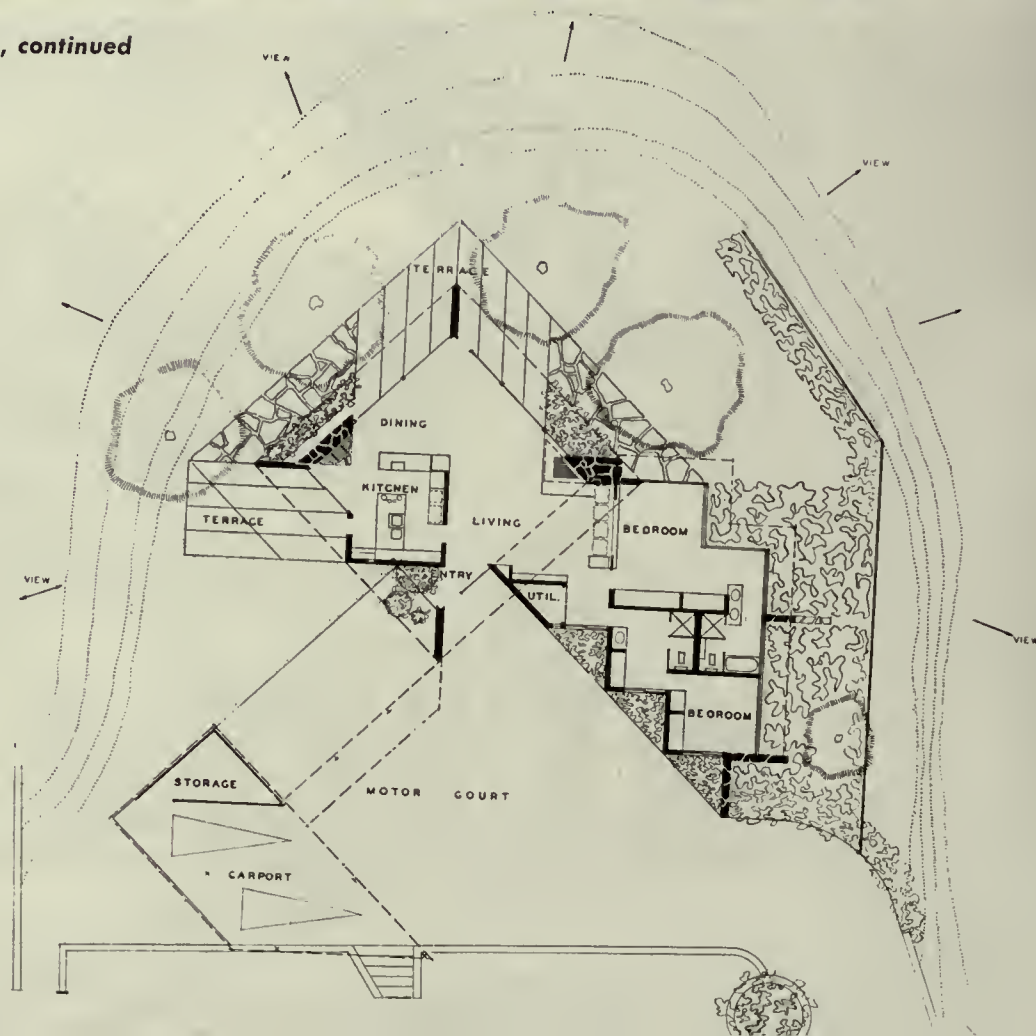
SUMNER SPAULDING and JOHN REX, ARCHITECTS

When Mr. and Mrs. Arch E. Ekdale invited Spaulding and Rex to design a house for them, they had no rigid preconceived ideas, but an extremely broad program with only one real requirement — complete flexibility in the use of the house for an informal way of living. They had a beautiful site in the Palos Verdes hills, with spectacular views extending to the mountains above Pasadena and toward the Pacific Ocean coast to the south, to which they had a strong attachment not only because of the views but because they had personally planted and nourished to near maturity several hundred trees. Situated on a plateau, with banks sloping away on all sides except the approach side, the house was oriented around the views. The square glass enclosure is framed to the four corners with inverted steel trusses with the low point in the exact center of the area, and a continuous slope in each direction from this point to the outer edge of the eave.





SAN PEDRO, CALIFORNIA, *continued*





The Ekdals' requirement for flexibility and informality has been brilliantly solved by the large square glass enclosure with living, dining, cooking and launging areas informally located within. The living and dining spaces wrap around the kitchen with only a seven-foot high wall to form a screen. The kitchen is equipped with charcoal grille, sada fountain and bar.



The two bedrooms are located in a set-back fashion for view and crass ventilation. A sliding partition closing off the master bedroom may be opened to expand the lounge and living space. The guest room and dressing-room remain isolated and private. Same floors, including the terrace, are concrete covered with terrozza; others are asphalt tile. Finish materials are redwood and fieldstone, with same hardwood cabinet wark. Lighting is fram recessed fixtures. Cur-tains and overhangs pravide sun contral.



MINNEAPOLIS, MINNESOTA

The space-use scheme in this house for the Harry A. Blackmuns is a simple but effective one: the reasonably large lot in a residential neighborhood which will ultimately be well-settled looks toward an open view to the south for several miles, and a limited view to the east. Family living is therefore divided into a living-dining-kitchen block which opens wide to the south, a bedroom wing with all of the rooms oriented toward the southeast, below the bedroom area a unit which includes the maid's room and, entered through the garage or from the upper floor of the house, a large playroom for the three children, again facing the west view and opening onto an outdoor play terrace. Each of these three elements deserves study for its use of space. The kitchen itself, as the photo-

graph indicates, is unusually well studied in its disposition of storage and work accommodations. In the bedroom part of the house the stairs split the plan into a children's end and a parents' end; adults have not only a generous sleeping room, but an adjacent study where Mr. Blackmun, who is an attorney, can do his own "homework." The advantage of the lower-floor playroom with its separate entrance, for three active young ladies under eight years old, is obvious. The house is radiant heated, with zoned thermostatic controls. The controversy between floor and ceiling panels is here nicely resolved; play and living areas, where a warm floor is pleasant, have floor heating; kitchen and bedroom spaces get their radiation from the ceiling.







LOS ANGELES, CALIFORNIA

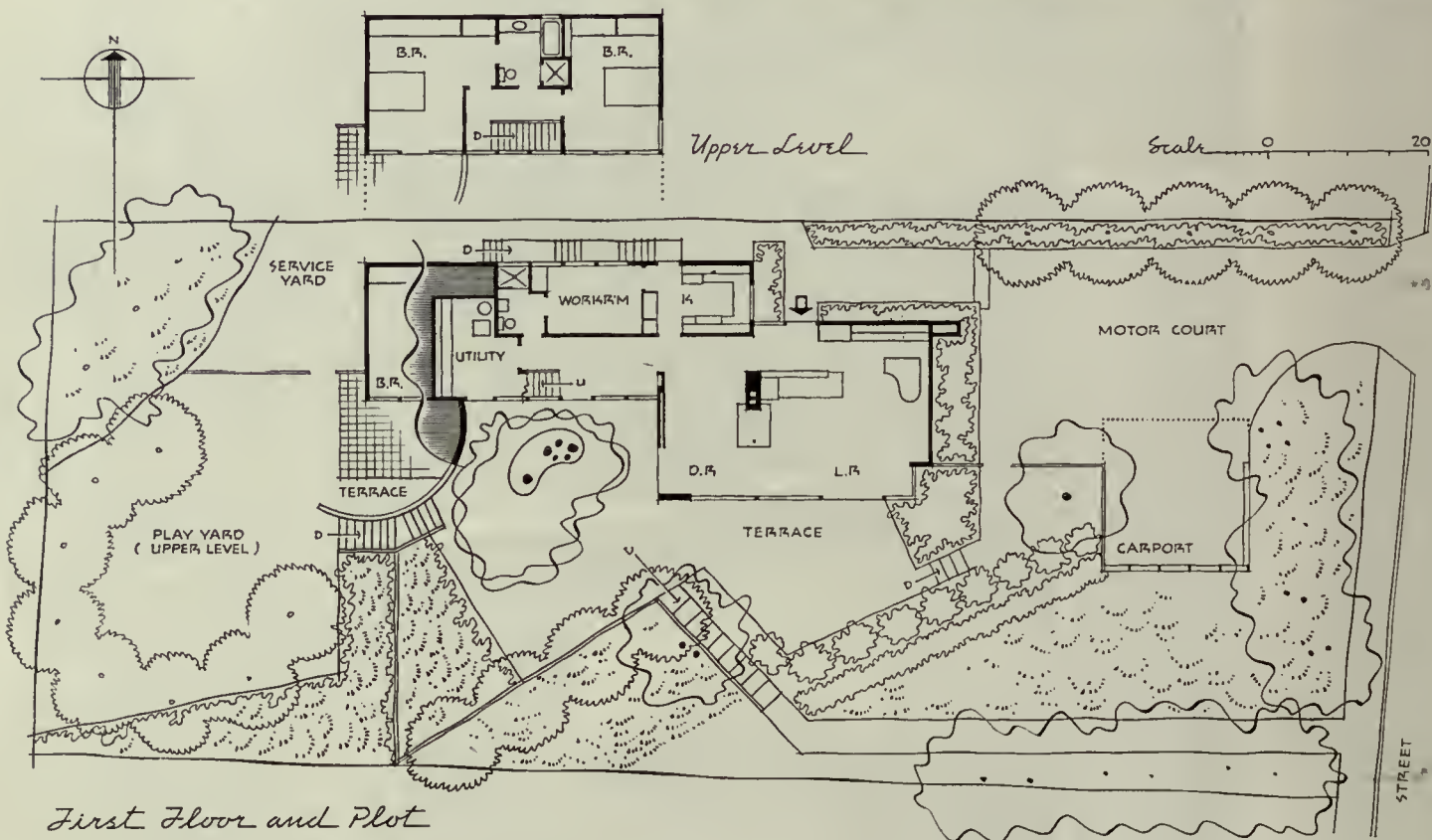
In the mild climate of southern California planning for outdoor living space is almost equally important with planning the interior space. With this in mind architect Carl Maston provided for ample terraces opening off the main rooms of his own house; a sunny one outside the living room, one shaded with tall eucalyptus for dining, and a secluded one outside the master bedroom. The three terraces were shaped out of the hillside site with a bulldozer. Below is shown the raised bedroom terrace with a brick retaining wall. Situated in a wooded canyon, the house is oriented to the south with a view of the city below. Late afternoon sun is eliminated by the hills to the west. Exterior walls are of redwood siding; interiors are cedar plywood in living room and one bedroom, plaster in kitchen and baths, gum plywood in other rooms. Entry gallery has brick floor; kitchen, workrooms, bathrooms have asphalt tile; living, dining rooms, bedrooms and stairway are carpeted.



LOS ANGELES, CALIFORNIA, *continued*

Within the house the one major large space is organized to serve four ways, with only a fireplace wall in its center to divide the functions of living, dining, music corner, and circulation gallery. The fireplace is used duolly for living and dining rooms. The spaciousness of this main area is further enhanced by the sliding glass walls which open it to two terraces. The kitchen is well located to serve dining both indoors and out. On the main floor are also located two workrooms, one for Mrs. Maston's sewing activities, and the other for Mr. Maston. Making the most of the hillside site, Mr. Maston placed the two bedrooms and bath on the upper floor, thus providing privacy for the sleeping area. The second-story level is approached by a stairway leading directly up from the entrance gallery (photograph of right), a scheme which neatly avoids trespassing through any other part of the house. This "gallery" is not only a pleasant space in itself, but it is the key to the plan arrangement, giving access to all the parts of the house.

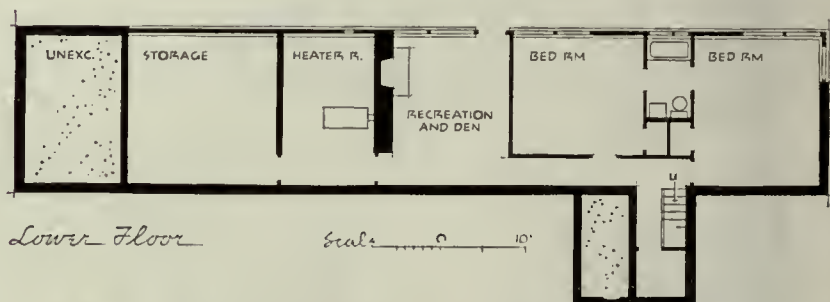
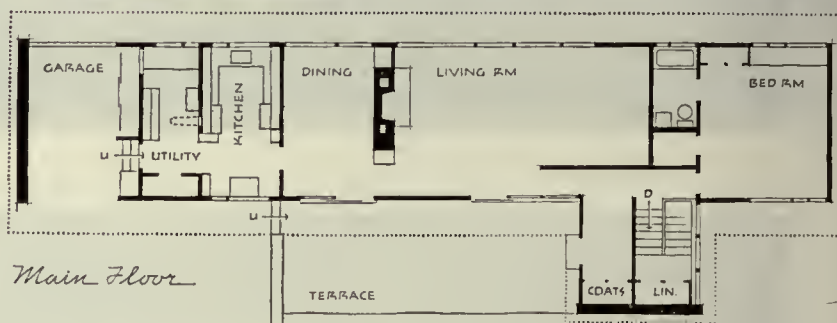
CARL LOUIS MASTON, ARCHITECT





BIG HILL, KENTUCKY

For a family with two college-age children a fore-sighted requirement was for a suite of rooms which might be used in several ways: by the children when they are home on vacations; as a separate guest suite or for rental to faculty members or married students of nearby Berea College during the school year. To meet this alternate use W. Danforth Compton treated the main floor as a one-floor house, and planned the lower floor to be usable as a separate apartment when the children are away. The parents, Mr. and Mrs. Allen Franke, are both musicians (the wife teaches music at Berea College). They entertain faculty and students frequently, give small concerts, and occasional outdoor buffet suppers. Weather allows enjoyment of the outdoors eight months of the year, so terraces were planned as an additional space for entertaining, and this outdoor space planning takes full cognizance of the climate. The lower level terrace is a cool spot during the summer, since the house shades it from the south sun, and the rise in ground and retaining wall protect it from the western rays. A fireplace was located here for summer picnic use. The south terrace is used in the spring and fall, and is protected from severe northeast fall winds. Construction is wood frame with stone bearing walls. All exterior siding is rough sawn poplar, cut locally. Floors are black walnut; ceilings of all rooms on the main floor have acoustic plaster. An interesting detail is the barn-door track from which the wood-sliding doors are hung. Windows are wood casement.



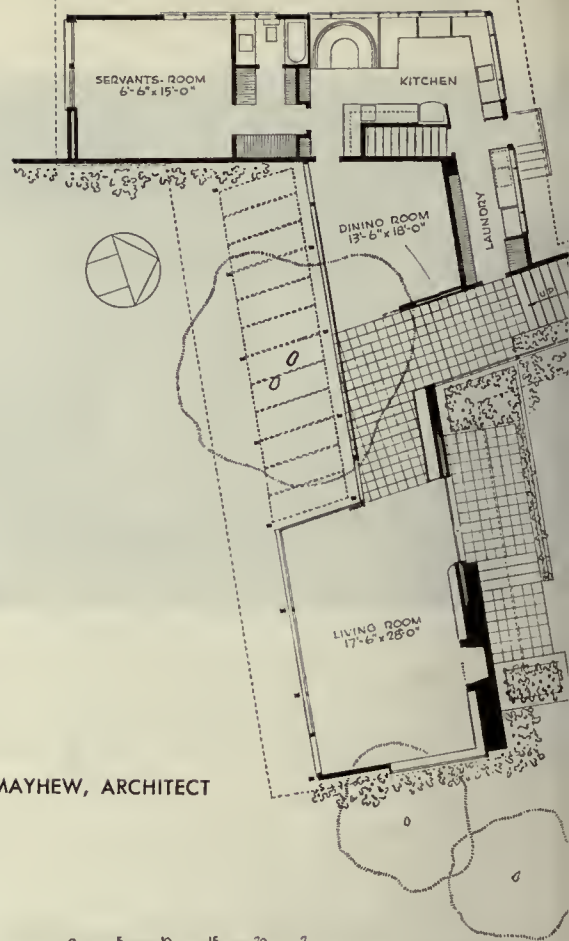


W. DANFORTH COMPTON, DESIGNER



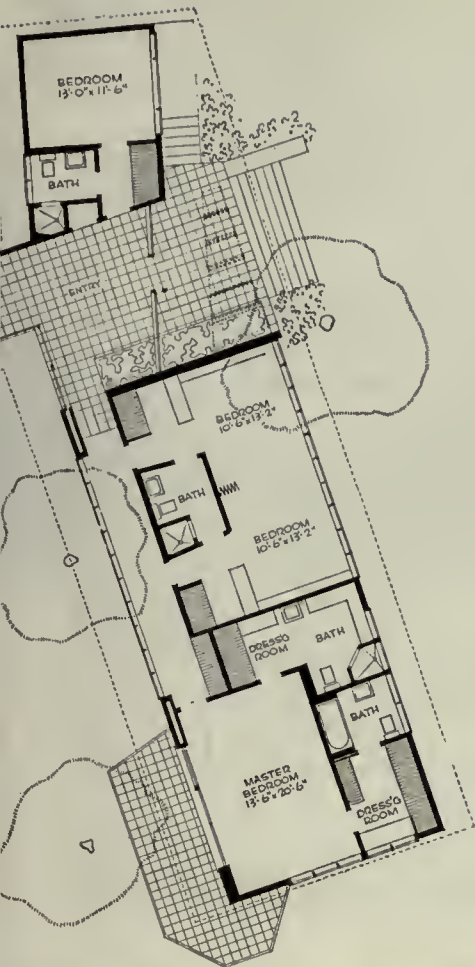
HILLSBOROUGH, CALIFORNIA

Segregation for privacy was the mandatory starting point for this house designed for Mr. and Mrs. Marshall Hale, Jr. and their three children. They required that there should be separate wings for living, family sleeping rooms, overnight guests, and service. Along with this seclusion for various activities was a desire for close relationship with the outdoors for each of these areas. An admirable solution was achieved by Clarence Mayhew through an H-shaped plan with two wings connected by a gallery with a midway change of level. This gallery, with one floor-to-ceiling wall of glass overlooking the bedroom patio, subdivides these two wings into four separate areas. At one end it separates family bedrooms from the guest suite, and at the other end the living area from the service wing. This splayed-out arrangement has the added advantage of providing secluded garden areas: one for the bedroom wing; a terrace off of the living room, shielded by the wall of the service wing, which in turn makes a screen for the service yard. Relationship to the out-of-doors is further heightened by well-established live oak trees retained close to the house, and in some instances even allowed to grow through the wide overhangs. Indoor planting spaces also connect to outside gardens through wide glass walls. The house follows the natural slope of the land, stepping up on a gentle grade via the gallery from the bedroom wing to the living wing. Heating is supplied by three gas furnaces: one for the main living-dining wing, another for the bedroom wing and guest suite; and the third for the service wing. These supply forced warm air, with filters and humidity control.



CLARENCE W. MAYHEW, ARCHITECT





Gallery



Bedroom terrace



SEATTLE, WASHINGTON

This house, owned by the Charles H. McDonalds, is a good example of planning space for privacy on a typical city lot. By using the device of an almost-enclosed patio garden, together with another variation of a "circulation gallery" (compare with the Maston house on page 123), Paul Thiry has made maximum use of the sixty-foot site. Although the living room is on the street side of the house, it opens primarily to the patio, and connects directly to the wide dining and circulation corridor. A living hall adjacent to the bedroom wing of the plan faces the third side of the patio and completes its very open "enclosure." Privacy for the bedrooms is obtained by screening at the end of the dining hall. Thus a great degree of openness and spaciousness is obtained, and all principal rooms have a garden exposure. The design makes an admirable use of plywood, stained yellow, on the exterior. Where brick is used, as for the chimney, it is painted white. Much of the furniture was designed by Thiry, to be in character with the built-in cabinet work. Color is also used carefully to add to the feeling of space on the interior; natural finish on the birch plywood walls and a yellowish-tan tile for the floors complement well the green of the planting in the always-visible patio garden.

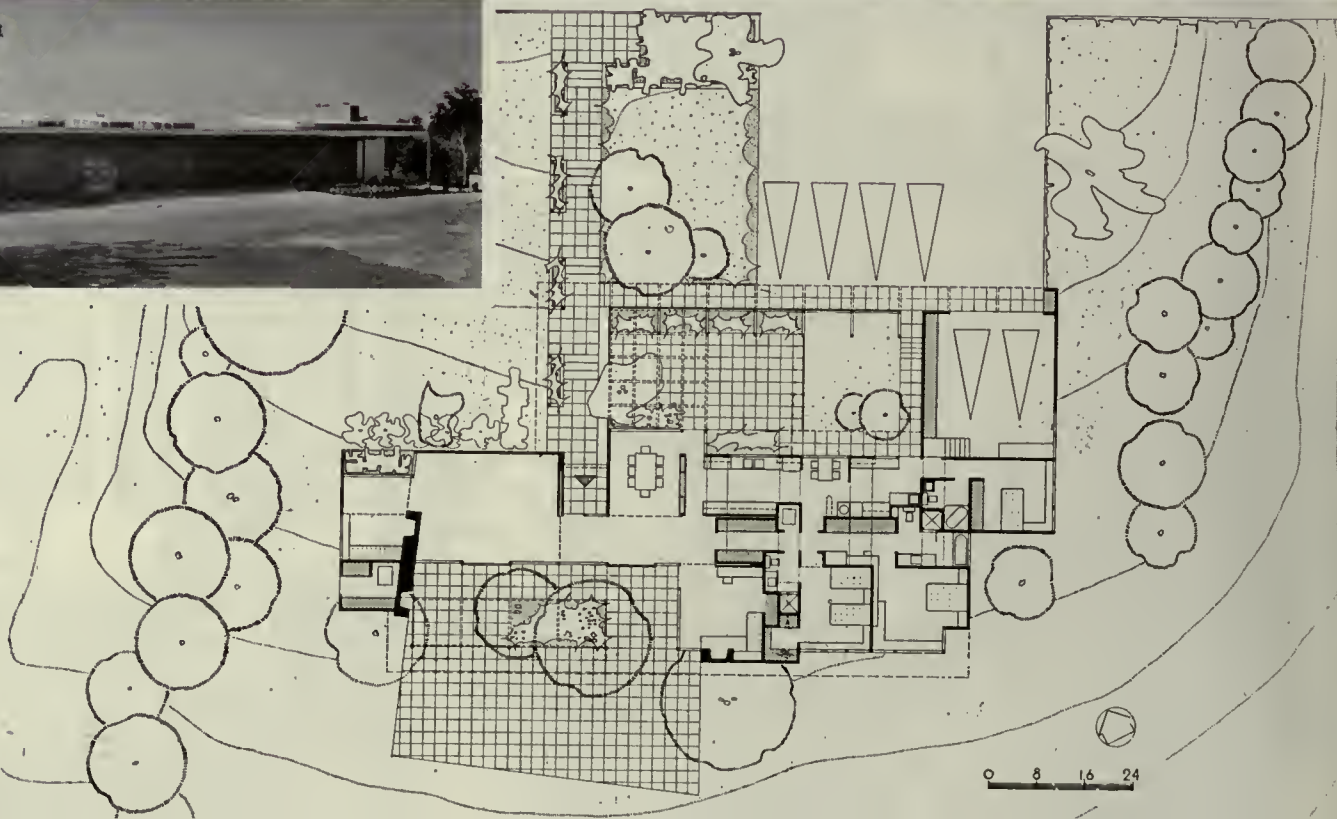
PAUL THIRY, ARCHITECT





ALTADENA, CALIFORNIA

Here is a plan sufficiently flexible so that fairly large groups can be entertained and yet the family (Mr. and Mrs. John Wilfong and their daughter) is not normally burdened with too great living space. Use of wide sliding panels makes this possible: the living room and alcove can be completely sealed off by one sliding wall; the den, combined with the extensive deck and loggia, provides ample living space for the family alone, and can be further enlarged by other sliding panels between the loggia and the dining room. Not only is an unusual degree of flexibility thus obtained; the various combinations of space relationships also develop many possibilities of views and vistas. Relationship of indoor to outdoor areas is retained even at night by a use of exterior lighting. Although most of the major rooms face south toward the San Gabriel valley, the view northward is a dramatic mountain aspect, and dining room, kitchen and breakfast alcove (often used by the family for dining space) look toward it. To obtain south and east light in these rooms and in the interior baths and hall, a system of four transverse clerestory strips slope upward toward the south sun, in the opposite direction to the slope of the main roof plane of the house. Construction is a simple wood frame. Interior finishes are plaster except for an extensive use of birch plywood in the dining room, den, loggia and kitchen.



GREGORY AIN, JOSEPH JOHNSON
and ALFRED DAY, ARCHITECTS



At left, looking from den toward
deck. At right, living room and
deck. Below, deck side of house.

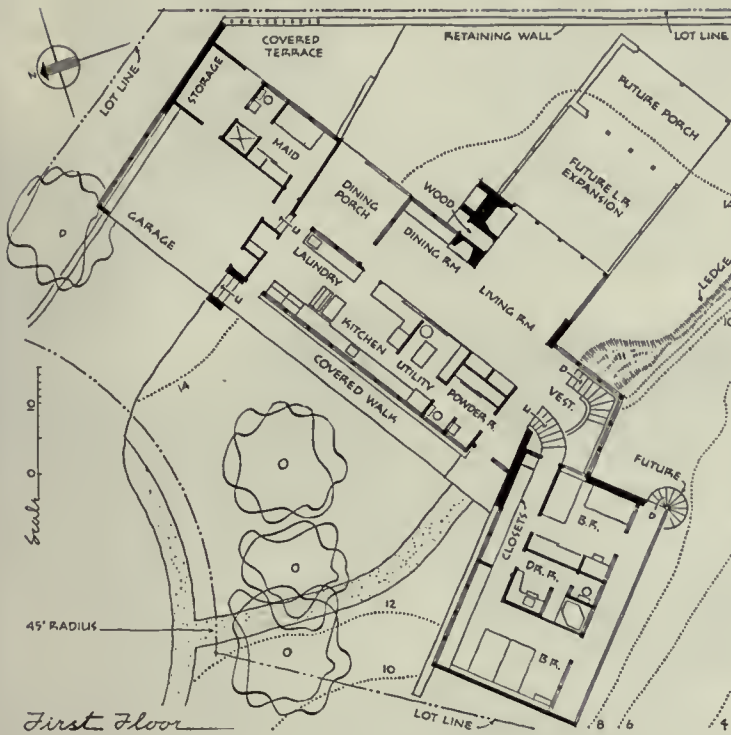


Expansion

If one wishes, for either economical or personal reasons, to start his house on a modest scale, or expects the size of his family to increase, then foresight in planning the present or first stage to expand easily and logically to the second stage will greatly facilitate its ultimate completion. The two following houses are good examples of pre-planning with the initial expectation of increasing the size of a house. It should be kept in mind that even with the most careful pre-planning the requirements may have changed considerably by the time the needs for expansion actually arise. Therefore, it is probably wise not to plan the addition in detail at the time the original house is built, but rather to allow for an adjustable future program. Also, a consideration in planning the first stage is that some spaces within the basic house will probably later change their function, and should therefore be schemed so that this can be accomplished with a minimum of physical change. One of the things that can be done is to place the house on the site in such a location that expansion is not blocked and also in such a way that desirable orientations will be available. Even landscaping should be so arranged that permanent large planting would not have to be removed. Albert Frey's own house (pages 136-138) was able to grow without destroying the relationship of pool and house—in fact, with an improvement in that relationship — because the possibility had been foreseen.



KANSAS CITY, MISSOURI



RUNNELLS, CLARK, WAUGH &
MATSUMOTO, ARCHITECTS

Built for one of the partners in an architectural firm, this house of the James Ingrohom Clarks is planned carefully for expansion as the family grows. It turns away from the street — originally a quiet thoroughfare which has since become much more busy, partly because people come to see the house — and faces toward the south and southeast on a sloping site which ends in a wooded creek bed. When the house was built there was one child; now there are two, and family plans are for two more. Hence it was desired that the house could grow both in bedroom accommodations and in living space. Facing the street is a "core" which will not change: utility room, kitchen, laundry and garage. Post these rooms as one enters the house is a living room which is at present reasonably large, but certainly not oversized. In the future, as the plan indicates, this room will be extended, and even may have a porch on the end as a final expansion. The solution to the addition of bedrooms is made possible by a steep drop of fifteen feet in the site at the point where the bedroom wing breaks from the main house. Under the present two bedrooms there is now an open terraced space which can, when the family has grown, be converted into a lower bedroom floor with three rooms. Mr. Clark is thoroughly objective about the value or lack of value of a number of ideas that went into the house. Orientation for sun control, studied mathematically, has worked out excellently. Plans to use a certain amount of site prefabrication — panels constructed on the property and raised into place — did not work so well, because of unfamiliarity of the available labor with this system. There is "nearly too much" storage space in cupboards, drawers and shelves. These are minor troubles, however. In general the dry-wall construction, the acoustic ceilings, the efficient kitchen layout, and the orientation have worked very well.



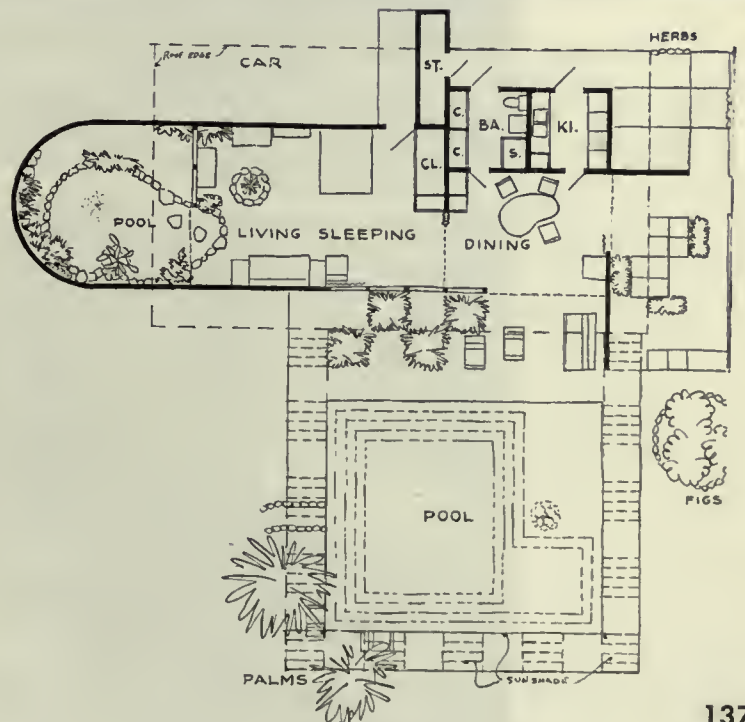


Also designed for one member of an architectural firm, but in this case a bachelor rather than head of a growing family, Albert Frey's own home in the desert illustrates the fact that a house *planned* for expansion can grow reasonably, even though the additions that actually come about are not exactly those that were originally intended. The first very simple structure, shown above, depended on an outdoor pool and planting, together with sliding glass doors and partitions, to provide pleasant open space and dramatic views in all directions, and at the same time ample through ventilation and protection from the sun. Mr. Frey's plans were to add a bedroom wing on one side and a living room on the other. When the time came to do it, however, he decided to simplify this scheme and extend only in a westerly direction with a combined sleeping-living room, converting the original space to dining room use. The only other change was the addition of a trellis over the walks around the swimming pool, tying it and the planting into the house composition, as the large picture on the opposite page shows. Construction was simple and inexpensive for both stages of building; a standard wood frame is sheathed with thin, prefabricated materials such as corrugated metal and cement asbestos board, which reflect rather than store sun's rays.

The original living room, shown in the photograph at the right, is indicated by the shaded area of the plan. To see how this room has been converted to dining space connecting with the new living-sleeping room, see the photograph at bottom of page 138.



CLARK & FREY, ARCHITECTS





The photograph below looks from the present dining room into the new living-sleeping room. Above is shown the interior of this added space, with its cone-shaped fireplace hood. The simple corrugated ceiling, which repels heat, has acoustic properties and forms a pleasant texture. Looking beyond is the open-roofed solarium with its fountain pool.



Indoor-Outdoor Relationships

Perhaps the most noticeable innovation in domestic architecture in the past decade or two has been the increasingly close relationship of indoors to outdoors. There are a number of factors which have contributed to, or been responsible for, this radical departure from the closed-in feeling which earlier generations were accustomed to. *Sociologically*, the major reason has been the shrinkage of the size of the family and therefore the size of the domicile. *Economically*—and hand in hand with the sociological factor—the increasing high cost of building has forced us to accept a dwelling of reduced square footage. To compensate for this shrinkage of interior space the house has been extended to the outdoors both visually and physically. *Technologically*, the production of large panes of glass and the concomitant scientific contribution of improved heating systems have made it possible to give a more open feeling to houses without sacrifice of comfort. These combined factors have in turn elicited from the present-day home dweller a *psychological* response, emotionally and esthetically, as he discovered that he enjoyed and could make use of this interpenetration of indoors and outdoors. This has had a profound influence on space organization.

Physically, living space is expanded beyond the four walls of a house by opening large sections of wall to gardens, terraces, patios, courtyards, and even balconies. The Maynard Lyndon house on pages 200-201 and the Green house on pages 140-143 are only two of the many examples in this book of the interfusion of indoor-outdoor living space. With the device of disappearing walls interior space flows into exterior space with natural continuity. The “disappearing walls” may slide open sideways, lift up to the ceiling, or roll down into a pocket below floor level. Planning of exterior space becomes equally important with planning interior space if this merger is to be completely successful and satisfying. Bringing the outdoors in is another means of physically linking the two; sometimes by a planted area inside to match a garden bed outside, as in the Henry Hill house in Carmel (see pages 58-61) which has a sunken garden below the floor level of the living room parallel to the plant bed outside. In the same house this link is carried still further by allowing a spreading tree in one corner of the garden patio actually to grow through the glass wall of the master bedroom.

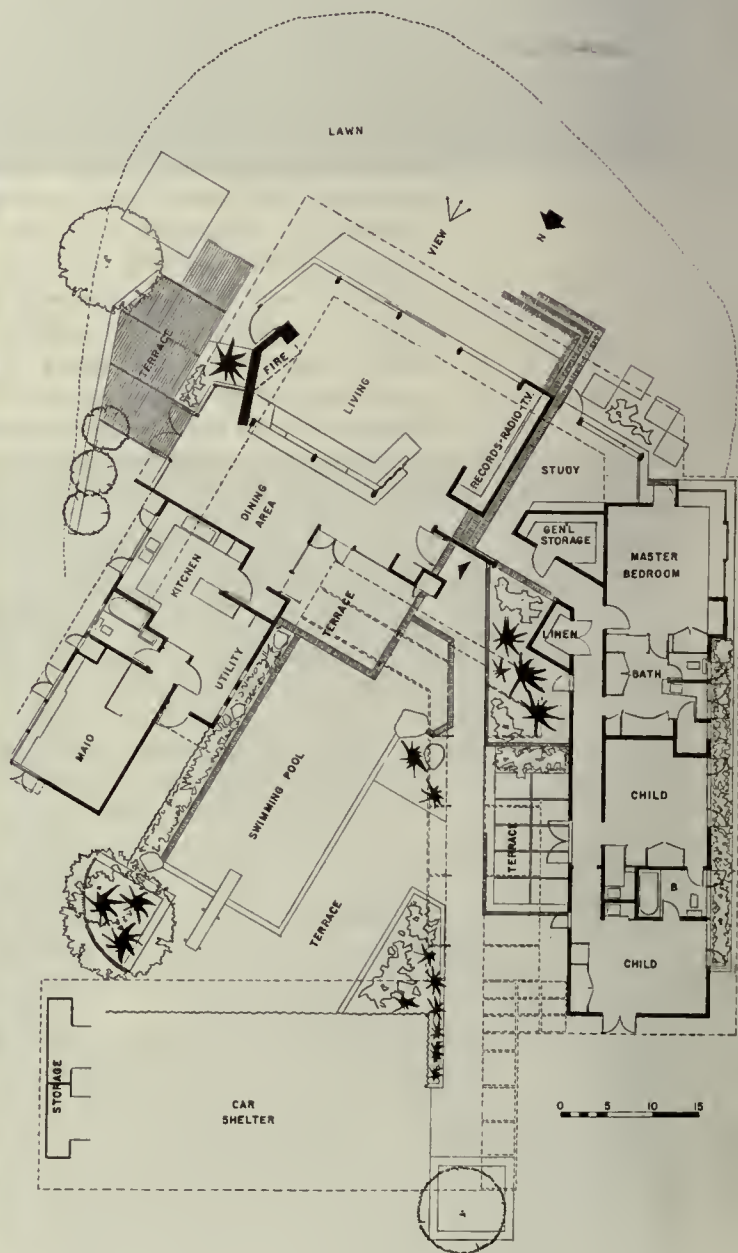
Visually one's horizon and sense of spaciousness may be increased by the use of large glass window walls. These may carry the eye out to a sweeping view of mountains, lake or ocean in the distance, or to the more intimate scale of surrounding trees and flower gardens. The use of existing trees is one way of capitalizing on the natural setting to fuse house and landscape. In the Mayhew-designed house on pages 128-129, abundant live oak trees were retained close to the house and in some instances allowed to grow through the roof overhangs. The reflection of the lacy pattern of the leaves in the large glass walls gives the impression of no barrier between indoors and out. To make the actual dimensions of the enclosed space only a small part of the apparent space, extensive lawns carry out from the living room of the house designed by Douglas Honnold, shown on pages 140 to 143. Another means of removing the visual barrier is to have a continuous plane which carries the eye beyond the wall of the house, as in the Belluschi-Burkes house (pages 149-151) which extends the living room ceiling out through the glass wall to form the roof overhang for the terrace courtyard, and in the house by Soriano (pages 196-198) which carries the concrete-slab floor outside the curtain wall of the house.

BEVERLY HILLS, CALIFORNIA

Bringing together the indoors and the outdoors requires either an isolated piece of property where draperies and curtains and blinds are not necessary for privacy, or a plan that turns in on itself and finds its own privacy by surrounding an open court or patio. Here, in the home of Mr. and Mrs. John L. Greene and their two children both things have been done. The hilltop site is an isolated one, overlooking West Los Angeles and Beverly Hills, and the living areas are designed with this view in mind, facing toward the southeast at the dramatic panorama shown below. Extensive lawns carry out from the living room, making the actual dimensions of the enclosed space only a small part of the apparent space. But since the site is also breezy, another extension into the outdoors takes the form of an almost totally enclosed "living court" developed around a swimming pool. The photograph and plan below indicate how this was accomplished: with the car shelter forming one

side of the enclosure; the bedroom wing (alongside which is the brick-paved approach to the house) the next; the entrance to the living-dining area and its inner terrace the third; and the service wing the fourth side of the quadrangle. How pleasantly this enclosed atrium has been designed and landscaped the pictures on the opposite page show. At the top of the page is a view out from the dining terrace; below at the left is the approach from the car shelter to the entry; at the right, below, one looks from the car shelter end of the pool toward the living room. Internal organization of the house is basically simple, despite the wandering of the plan. Two children's bedrooms and a master bedroom occupy their own wing, and between this part of the house and the living room is a study where Mr. Greene, a radio writer, works on his scripts. Terraces extend the dining room in two directions, so that wide choice is offered in the place and the manner of serving food.

DOUGLAS HONNOLD, ARCHITECT



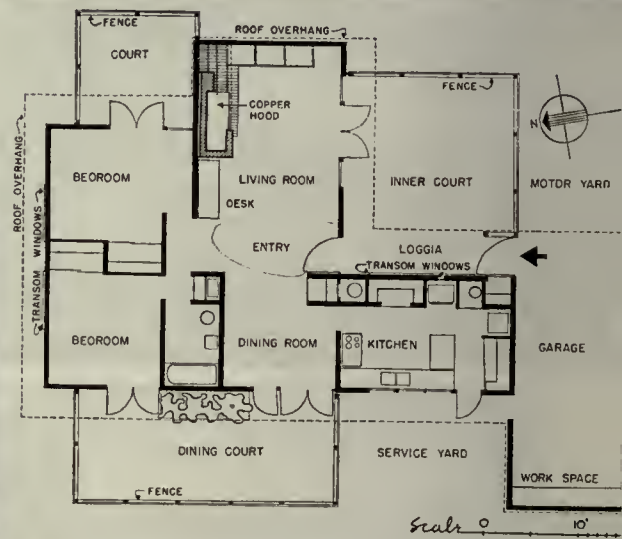




Above, the built-in sofa arranged in the living room to face out toward the view shown at the right. Across page, the two top pictures show the built-in storage unit which backs up the sofa on the dining room side. Below is shown the dining terrace on the west side of the house, leading off to the lawn.







GORDON DRAKE, DESIGNER

CARMEL, CALIFORNIA

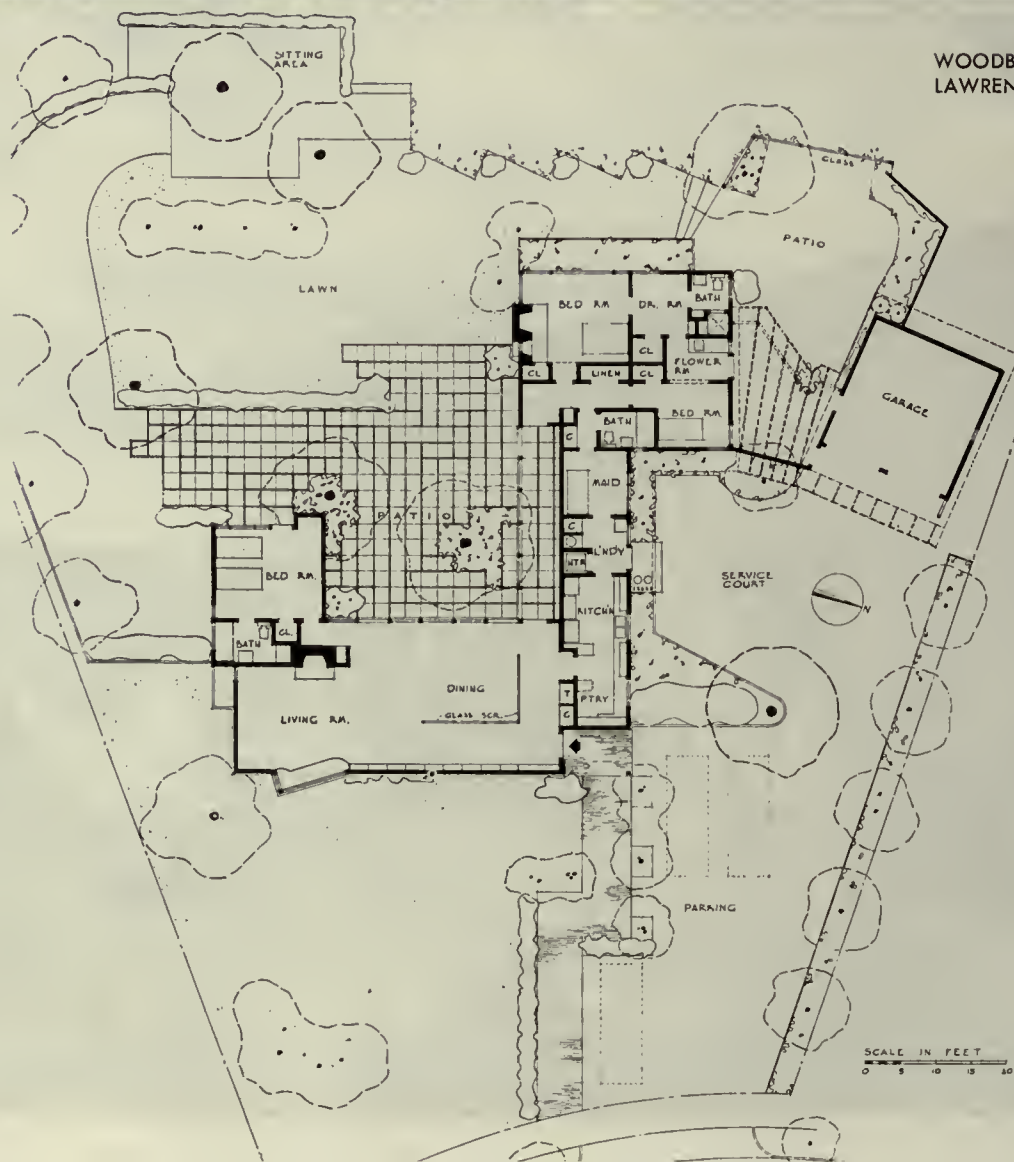
In designing a house for Dr. and Mrs. George Miller, Gordon Drake was faced with a very different problem from the one of grand views and open isolated location. Here the lot was a typical suburban measurement of 60 x 100 feet, and realistically the Millers assumed that in time they would be surrounded by not-too-attractive houses built close to the lot line. Yet owner and designer wished to take full advantage of the pleasant climate and the western and southern exposures by making possible as much outdoor living as could be arranged. The solution is a series of fenced courts or gardens, so that each room in the house has its own corresponding outdoor space. One enters the house between the living room and the dining room; the entry, which is not enclosed by any partitions, is the only "corridor" space in the house. From here one turns to the living room with its court on the south. On the western side of the living room is another court or garden, which serves for outdoor

dining, and on which the smaller of the two bedrooms opens as well. The master bedroom has its own garden to the east. Obviously the difficulty in this plan arrangement was that the garden courts became small and had to be fully fenced to gain privacy, as the photographs indicate. And yet the landscape architect, Douglas Baylis, has done much to make these small gardens seem larger than they really are, by planting which continues up the walls themselves, in the form of hung plant boxes which hold bright annuals. The three courts are shown in the photographs on this page and the opposite one: far left, the master bedroom and its outdoor space; left, below, the dining court, which also serves the smaller bedroom; below on this page the living court, with the covered walk from the carport at the left of the picture. Construction of the house is based on a three-foot module, with built-up wood posts faced with redwood siding. Floors are asphalt tile over a concrete slab,





WOODBIDGE DICKINSON JR. &
LAWRENCE TEST, ARCHITECTS



PASADENA, CALIFORNIA

Mrs. Thompson Dickinson's house is planned for a woman living alone, who entertains large groups and who wanted a guest suite well separated from her own quarters. The plan reflects this program, with the two sleeping areas at the extremes of the house, and the maid's room strategically located near the owner's wing and yet adjacent to the service area. The most successful aspect of the house, however, is the pleasant inter-relationship of the living room-dining room-patio space, designed primarily for entertaining. One end of the living room is not open to the patio, and here, where conversation groups may form, a window is turned to look out toward the Sierra Madre mountains. The rest of the living-dining space is closely related to the patio. Both uses of this space are shown by the picture below. Fine, large existing trees were saved and integrated with the patio gar-

den. On the following page are views of the outdoor space from inside the living room, and looking toward the connecting hallway which leads to the owner's rooms. Paving of the patio uses an interesting technique — wide squares of concrete were washed to expose the colored aggregate. This paving, as the plan indicates, was continued into the floor of the hallway, to give one walking along this gallery-like corridor a feeling of actually being outdoors. To make the sense of indoor-outdoor relationship complete, finishes both inside and out have been made to tie in with the surroundings as much as possible: construction is frame and stucco, with the stucco colored a light "adobe" and the exterior trim and siding stained and bleached to give a weathered effect. The living room walls are finished with grass cloth, and the trim is a natural finished redwood.

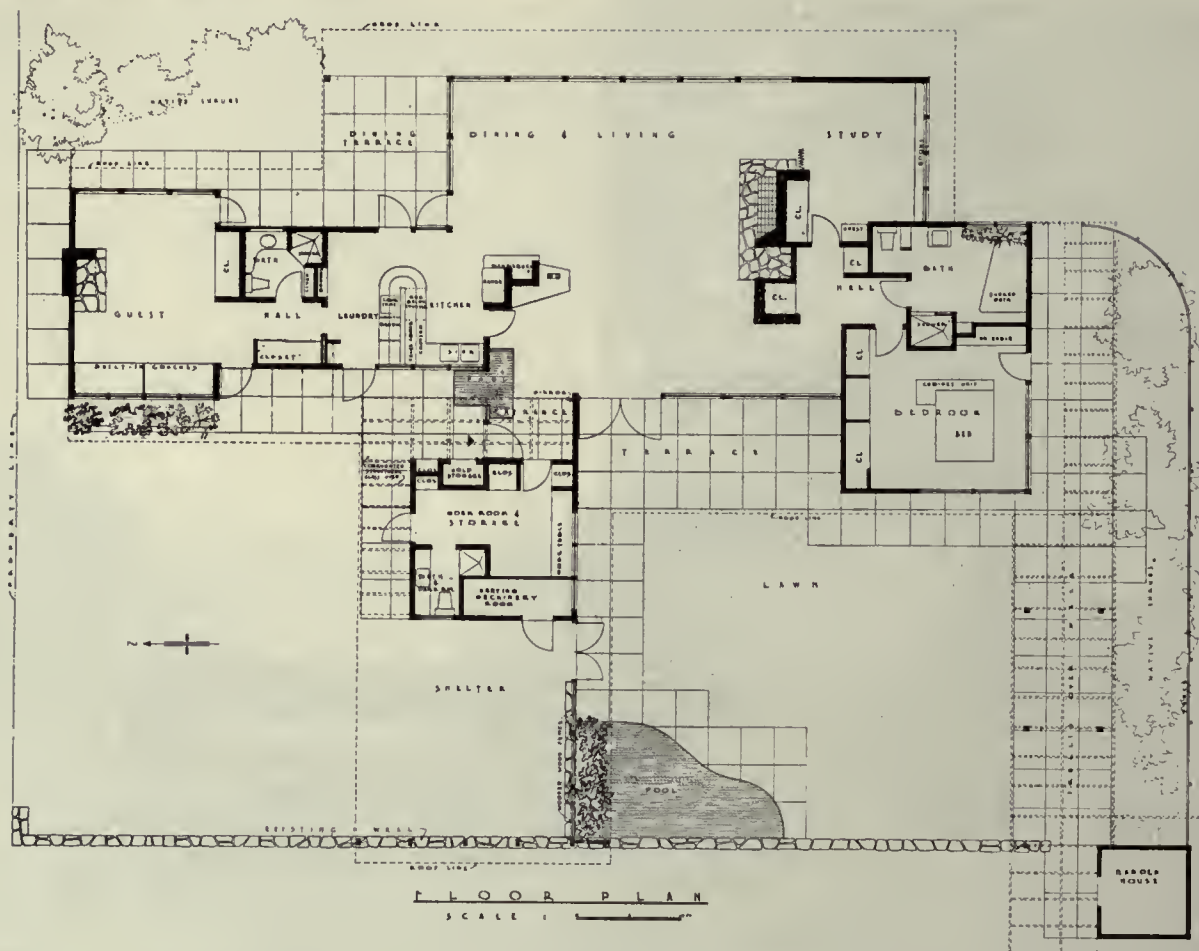


PASADENA, CALIFORNIA, *continued*





The visitor's first glimpse of this house for Dr. and Mrs. D. C. Burkes does not give a hint of the indoor-outdoor relationship which becomes apparent as soon as one enters. Its serene entrance side, with carport and ample turn-around auto court, is unpretentious in its simplicity and discreetly conceals from the public what lies beyond. The surprise impact comes after passing through the simple entrance, at left, to the sudden contrast of a spacious living room with a dramatic view of Mt. Hood and the Cascade Range on one side and its opposite wall of glass which opens to the intimate courtyard. The site, in a residential neighborhood on a hill overlooking Portland, also contributes to the privacy of the occupants since it is almost peninsular in shape as well as a cul-de-sac. Privacy is further promoted by individual, special entrances to the house: in addition to the main entrance door, there are doorways opening directly to the kitchen-laundry, the storage work room, the private guest wing, and from the carport to courtyard.



PIETRO BELLUSCHI, ARCHITECT

According to architect Pietro Belluschi "the plan exemplifies what is known as an open or free-flowing plan, with the courtyard used as a landscape accessory to the house." The skill with which he has accomplished the merging of one space with another, while at the same time achieving a sense of seclusion for each, is readily apparent in the plan above and the photographs on the opposite page. The study and master bedroom suite are separated from the living room only by a massive fireplace wall, the kitchen by a brick partition which houses a barbecue and set-in cooking unit. By extending the living room ceiling out through the glass wall to form the roof overhang for the terrace courtyard, Mr. Belluschi successfully merges outdoor and indoor living spaces. Dining space is so arranged that the Burkes can eat inside, with a magnificent view of Mt. Hood, or outside on the adjacent dining terrace. Both dining space and kitchen have direct access to this terrace. In fact all rooms, with the exception of the study, have direct access to outdoors. Wide overhangs extending out from the flat roof plane surround the exterior of the house, and afford protection for the paved walkways as well as the window walls. Exterior walls are cedar.





The external environment in which a house is located affects to a very large degree its design and its orientation. In addition, a universal requirement in building any house is internal comfort. These have been a constant factor, through every period of architecture; a shelter which protects one from the outside elements of weather—heat and cold, rain and snow, unwelcome winds—and which creates inside an environment of comfort—in temperatures, ventilation, illumination, and even sound. Architects today—and in the past few decades—have met this challenge with increasing skill and ability.

Although climatic environment is the universal and constant factor influencing the design of buildings, it varies greatly in its behavior in different parts of the country. The weather in the northeast and the middlewest—with extremes of temperature making sun desirable in winter and unwelcome in summer—is radically different from the weather in the southern and Gulf states—with their long summers of heat and high humidity—where every device for capturing breezes and excluding the sun is important (an excellent example of designing for natural coolness and ventilation is Dean Henry Kamphoefner's house on pages 154-157). In the northwest with many months of rainfall, and in the southwest with its arid hot months for most of the year, the design solutions are as different as the climates themselves (as indicated in the house by Belluschi, pages 149-151, and the ones in Arizona designed by Blaine Drake and Schweikher & Elting on pages 159-160 and 166-167). In contrast to these is the Polevitzky house (pages 170-172) in sub-tropical Florida where year-round living can be almost completely outdoors because of the equitable climate.

Among the several "natural" design elements which have been devised by architects in recent years to invite or repel the sun is the overhang or "eyebrow." With the increasing use of large glass areas, often oriented to the south, the benefits of solar heat may be enticed into the house (and incidentally reduce heating costs). In the regions where this is desirable in the cold months but undesirable in the summer, the overhang which is scientifically calculated with the sun's travel admits the low winter sun and excludes the high rays in the period between the spring and autumn solstices. Still another means of making nature work for your comfort is orientation of the major openings of the house to catch the prevailing breezes, as many of the houses on the following pages illustrate. Where the path of prevailing breezes and the heat of the sun coincide, louvered walls have proven to be a good answer. In some instances this may take the form of almost an entire wall of louvers, which can be closed against the sun and hot daytime exterior temperatures and opened up to pull in the cool evening and night air, as in the houses on pages 154-157 and 168-169. Or it may be the installation of louvers or transoms at floor level, below large areas of fixed glass. These may be used in combination with high transoms (as in the Atlanta house on pages 164-165) or clerestories to create a cross ventilation, with the cool air coming in at ground level and the warm air going out at the roof-level openings. Still another effective device for cooling is the use of ventilated roof and wall construction, or of roof pools or a roof-spraying system to reduce the interior temperatures by at least ten to fifteen degrees. A particularly effective solution for year-round control of temperatures and sun is the use of alternating wall panels for different seasons of the year, as illustrated in the Gerald Loeb house designed by Harwell Hamilton Harris, on pages 173-175.

Manufacturers of building materials and equipment have been very much aware, in recent years, of the problem of control of the interior environment. While many designers have been experimenting with *natural* means of ventilation and protection from or invitation to solar rays, and with the other design means that we have mentioned, others have been working to help produce *mechanical* control devices. In general, the trend of these investigations and their results have been in the direction of *additional use of existing building elements* rather than the introduction of new pieces of isolated mechanical equipment. This is true of heating, lighting, and acoustical and thermal insulation advances.

To explain what this implies, let us consider the mechanical concept which has gained most rapidly in public favor in the last decade—radiant heat. In the first place the principle is good: control of the body's heat loss by radiation rather than convection (air movement) is more salutary and more pleasant. But the thing that has appealed most to designers of buildings is that the walls and floor and ceilings have to be there anyway, and if heating pipes can be imbedded in them so that the whole wall or floor or ceiling acts as a heating unit, so much the better—it is then possible to get away from the individual, isolated heating unit.

In the second most important way that man artificially controls his environment—the provision of lighting when nature's illumination fades—the principle of using a total existing building element does not yet seem possible. We do not have any lighting device comparable to radiant panel heating, although some recent announcements of glowing glass panels may hint that that day is coming. The closest approach to it yet common is the use of indirect lighting, from behind strips which also serve a structural or a decorative purpose (as in Bernard Kessler's design on pages 182-183 and Alexander Cochran's house, pages 22-25. The object is to provide a luminous environment close to nature's own in place of spotty isolated fixtures.

The availability of sheets or panels of cushioning, absorbing or reflecting materials has been another invitation to the architect to combine functions of materials. The load-bearing masonry wall was an excellent insulator but for a number of reasons (some of which are explained in the introduction to the section of this book on Construction) it has been largely eliminated from residential building. In its place, to insulate from sound waves as well as heat waves, we now have the doubled, separated sheets of insulating glass, numerous board sheets that can serve as insulator and finished ceiling or finished wall, sprayed-on materials which eliminate the need for plaster and paint (as in Paul Beidler's Rose house on pages 180-181), sheets of reflective metal materials which can be either built in to the construction or become an essential part of the construction itself (see architect Frey's own house in California on pages 136-138).

Not all heating, lighting or insulating techniques can become an integral part of the structure in this way, however. Another lesson that architects and engineers have learned in recent years is that it is the quality of the atmosphere we live in that makes us healthy or unhealthy, comfortable or uncomfortable. Measuring the temperature with a thermometer is not enough to tell us the nature of the air around us. Is it clean? Has it the correct degree of humidity for the temperature? Is it odorless? Is the heat loss from the occupants of the space evenly drawn (70° in one part of a room may be uncomfortable, while it is satisfactory in another)? Not all of these problems can be answered by large reflective surfaces, and there must be reliance in some parts of the country for certain purposes on equipment as well as materials—the air-conditioning system which functions winter and summer in the Weiners' Gamm house, for example (pages 178-179). There cannot be any one answer to the control of the environment within and around houses. The thing that is most important today is that problems are being recognized, studied and solved. That the solutions involve natural design elements, use of materials, and advances in mechanical equipment is an indication of the extent and scope of the studies.

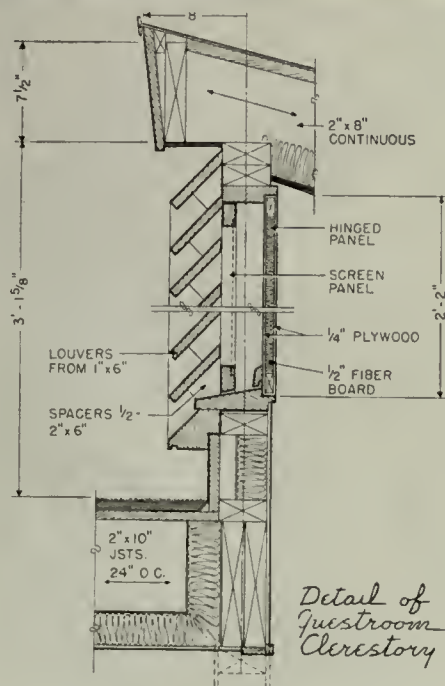


RALEIGH, NORTH CAROLINA

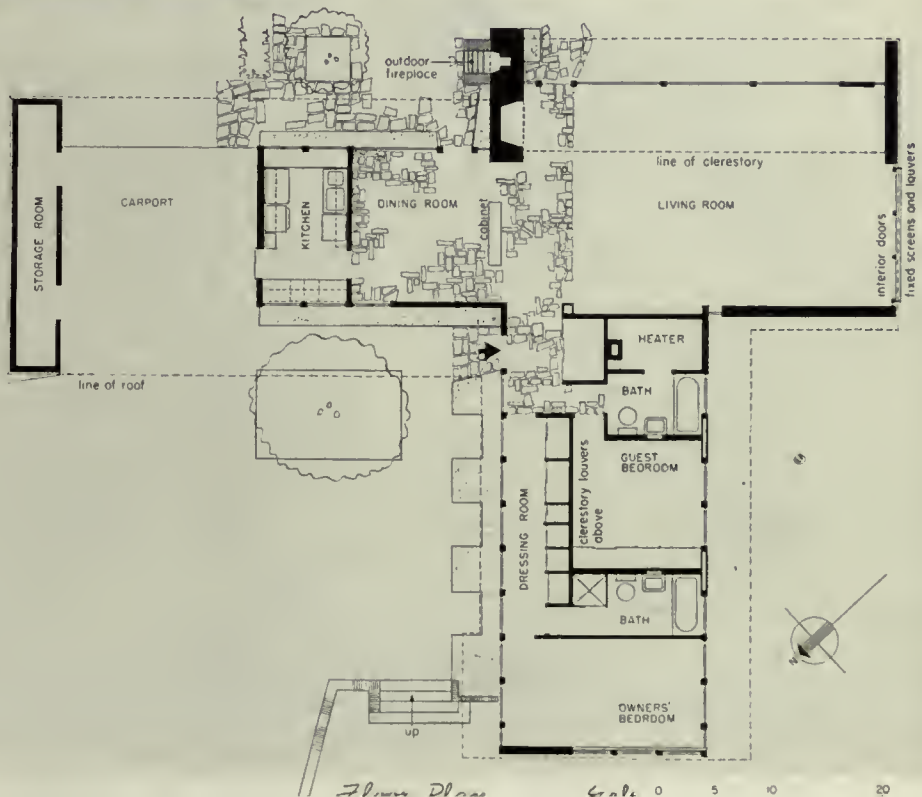
HENRY L. KAMPHOEFNER, ARCHITECT
GEORGE MATSUMOTO, ASSOCIATE



In a climate where the summer months — from June until October — have temperatures which range from the 80's to 104 degrees, and the humidity varies between 70 and 90 percent, ventilation for comfort is a primary consideration. Dean Henry Kamphoefner, who designed this house in Raleigh, North Carolina for himself reports that the heat of the summer months influenced the design to a great degree. Because about eighty percent of the breeze is from the southwest, he oriented the living and sleeping spaces in that direction. To protect the living room from the heat of the western sun he developed a louvered breeze-wall (shown in the photographs at left and at bottom of facing page). This wall is kept closed by a series of solid double doors during the heat of the day and opened after sundown to draw in the cool evening air. The glass walls of the living and dining rooms face the southeast (see photo at top of opposite page) and are protected by wide eaves against solar heat and rain. To draw the cool ground-level air in vent sashes are placed at floor level below the fixed glass panels; to exhaust the warm air out louvered transoms are provided in the clerestory above. This simple but effective device for ventilation was suggested to Dean Kamphoefner by the action of air in a silo where the cool air rushing in at the bottom openings would rise and force the warm air out at the top. In the bedroom wing, he placed above the guest bedroom and two bathrooms a clerestory with ventilating louvers (see detail below). The air moves in from the direction of the prevailing breeze through the large casement windows on the southwest, and as it becomes warm moves out through the high clerestory louvers on the opposite side. These have top-hung and inswinging plywood panels, with friction stays to hold the panels in any desired position; they may be completely closed in cool weather.



*Detail of
Guestroom
Clerestory*



Floor Plan

Scale 0 5 10

RALEIGH, NORTH CAROLINA, *continued*

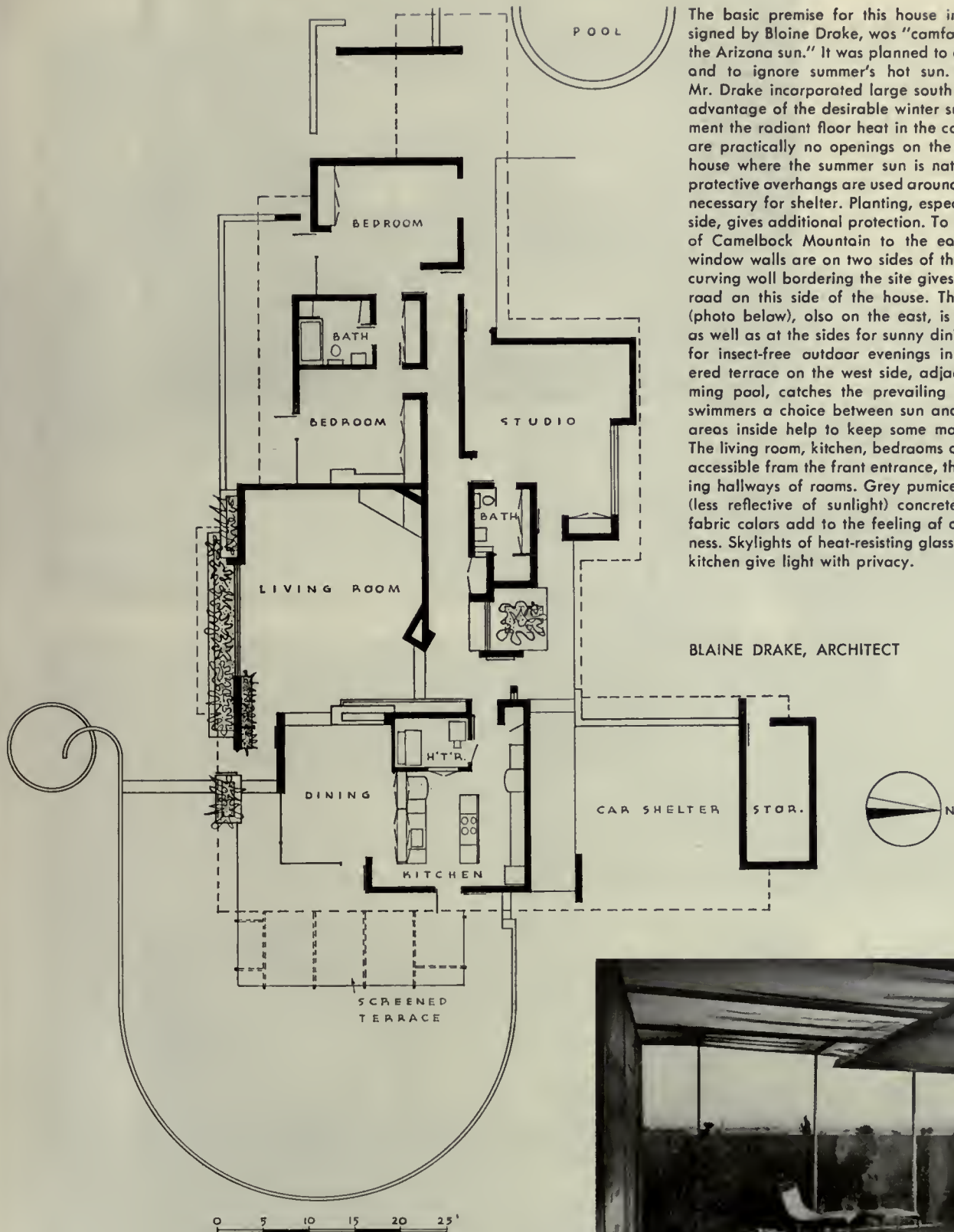
After one summer in the house Dean Kamphaefner reports, as a result of his design for ventilation, that the indoor temperatures during the hottest part of the day were often thirteen to fourteen degrees cooler than the outdoors. Cork and flagstone floors add to the sense of coolness (see photo at bottom of opposite page, of dining room looking toward living room). Floors are radiant heated in the winter months. Exterior walls are of roman brick, which has also been carried out in the retaining wall at the entrance side (see photograph below).







PHOENIX, ARIZONA



The basic premise for this house in the desert, designed by Blaine Drake, was "comfort or shelter from the Arizona sun." It was planned to obtain winter sun and to ignore summer's hot sun. To achieve this Mr. Drake incorporated large south windows to take advantage of the desirable winter sun and thus augment the radiant floor heat in the cold months. There are practically no openings on the west side of the house where the summer sun is not desirable. Wide protective overhangs are used around the house where necessary for shelter. Planting, especially on the west side, gives additional protection. To open up the view of Camelback Mountain to the east floor-to-ceiling window walls are on two sides of the dining room. A curving wall bordering the site gives privacy from the road on this side of the house. The dining terrace (photo below), also on the east, is screened on top as well as at the sides for sunny dining in winter and for insect-free outdoor evenings in summer. A covered terrace on the west side, adjacent to the swimming pool, catches the prevailing winds and gives swimmers a choice between sun and shade. Planting areas inside help to keep some moisture in the air. The living room, kitchen, bedrooms and studio are all accessible from the front entrance, thus avoiding making hallways of rooms. Grey pumice-black walls, red (less reflective of sunlight) concrete floors and soft fabric colors add to the feeling of comfort and coolness. Skylights of heat-resisting glass in the baths and kitchen give light with privacy.

BLAINE DRAKE, ARCHITECT





Built-in sofas and cabinets of natural birch in the living room contrast pleasantly with grey pumice-block walls, which make a good neutral background for colors.



At left: Covered terrace near the swimming pool on the west side provides shade and catches the prevailing breezes.

Below: The studio is separated from main part of the house by its only corridor, may be used as a guest bedroom.



STOCKTON, CALIFORNIA

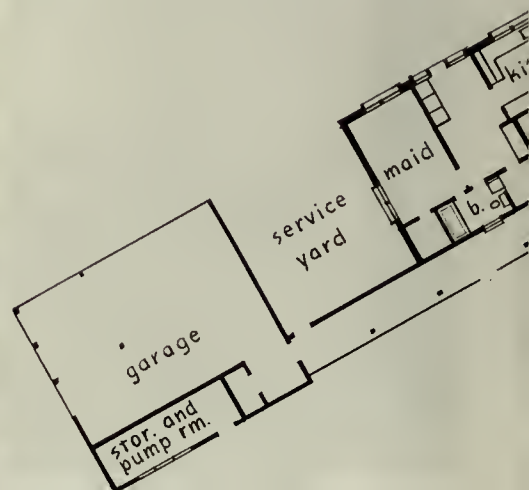


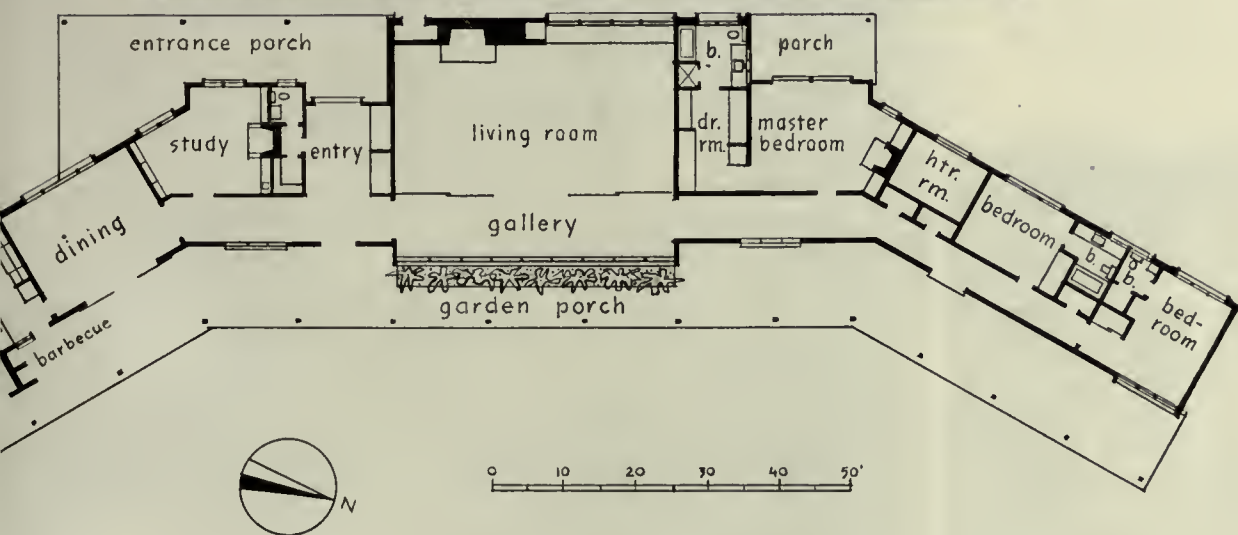
STOCKTON, CALIFORNIA, *continued*

San Joaquin Valley, where this house for Mr. and Mrs. Henry Holt is situated, experiences extremes in climate — with intensely hot summers and winters which are cold and raw. Architect Joseph Esherick oriented the house to catch the west wind in summer and to provide shelter out of doors from the bitter winter wind which comes from the north-northwest. The one-room wide U-shaped plan gives most rooms the benefit of the cooling west wind on summer nights. By facing the house southeast, shelter from the west and north winds was provided on the garden side. A wide "garden" porch, facing east to avoid sun and glare (see photos on preceding page) extends the entire length of the house, and is covered on the two wings by the sloping roof. In the center portion, opening from the living room and its parallel indoor garden gallery, the roof is omitted to bring the sun into this area (see photographs at right). The dining room, shown below, is in the south wing, and has glass openings on two sides. Materials and colors were all chosen to create a cool relaxed feeling. The two-inch plank roof with shingle lath and shakes over the large attic, and the brick veneer on the west side are all remarkably effective in keeping the house cool. Quite aside from providing all possible comfort to combat weather conditions, the architect has met the family requirements: a house for relaxed country living on a 60-acre ranch; outdoor entertaining; and a large porch for the two children's play. Easy access from all parts of the house to the adjoining porches was a specific requirement that was met.



JOSEPH ESHERICK, ARCHITECT





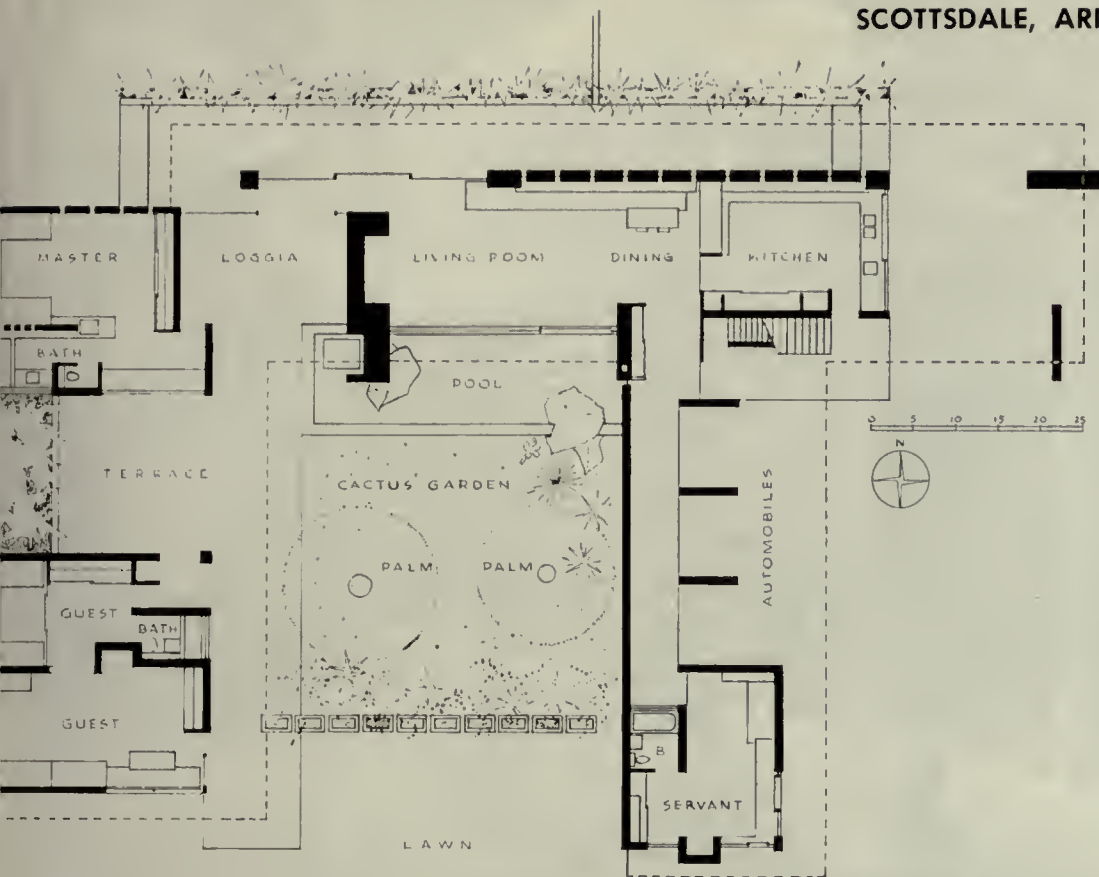


STEVENS & WILKINSON, ARCHITECTS

The program for this house — for Mr. J. R. Wilkinson, partner in the architectural firm which designed it— was a simple direct one: a year-round house for the architect and his wife and two small boys. The southern climate, however, was an inevitable part of the program. To insure good cross ventilation, aluminum louvers were installed beneath the double-thick window wall in the living room (photo at left), and transoms were placed across the front entrance (photographs below). The same effect of cross current of air is achieved in the bedrooms by sliding windows on the south and high transoms on the north and west sides. Overhangs of six-foot width on the south side of the living room, and three-and-one-half feet at the bedrooms, protect the glass from sun in the summer and also keep out all but heavy driving rains. Situated in a three-acre plot in the middle of a large wooded tract, the house is oriented with the living room and principal bedrooms to the south-southeast with a two-mile view of the wooded area. The extra bedroom on the northeast corner was planned for the use of a nurse or servant while the children are small, and to be converted to a guest room or one of the boy's bedrooms later on. The master bathroom was designed and roughed in so that by the addition of a partition separate bathrooms will be provided for the two main bedrooms when children are larger. Construction is concrete slab on ground, wood frame, corrugated cement-asbestos exterior siding, and built-up gravel roof. Plaster walls and acoustic fibre-board ceilings are used throughout. Heating is a hot-water system with radiant floor panels.







SWEIKHER & ELTING, ARCHITECTS

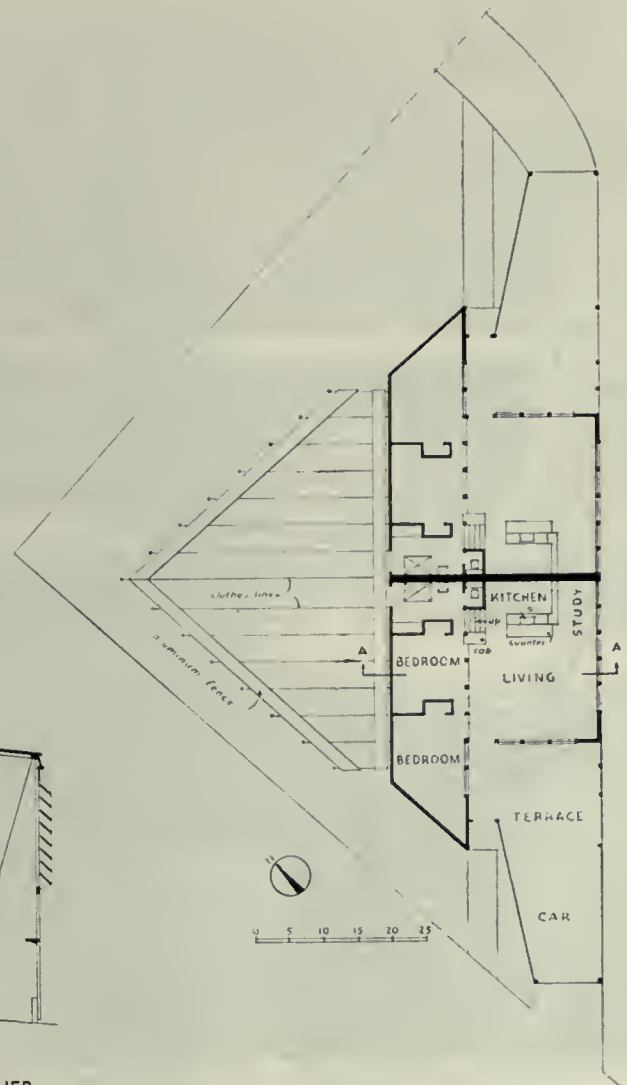
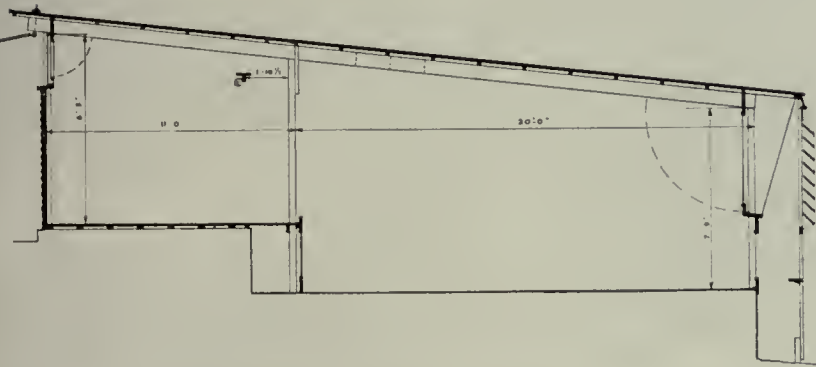


Mr. and Mrs. Louis C. Upton asked Schweikher and Elting, architects with their office in Chicago, to design for them a house located in and suited to the Paradise Valley of Arizona. A certain part of the plan scheme was determined by the location of existing foundations (the Uptons had a previous house on the site, which had burned). However, the final arrangement — living quarters on the south and sleeping quarters on the west turning in to a cactus garden patio — was based primarily on the architects' desire to provide comfortable living space in a hot, arid climate; to take every advantage of all breezes; and to design a cool-looking, serene, appropriate environment. Although the materials employed are massive piers and walls of stone and wide bands of wood, the house has a light and airy character. This is partly the result of the openness of the plan; partly due to the glass strips between masonry piers (shown from the outside in the view of the northeast approach side of the house; upper photograph on the facing page); and very largely because of the way living quarters, master bedroom and guest suite have been separated from one another, though all under one continuous roof. Along the north and south walls of the living room built-in benches covered with upholstered air-foam pads make comfortable places to relax and enjoy the pool which is located between the living room and the garden (lower photo, facing page). The entrance loggia, the terrace between master and guest sleeping quarters, and the cactus-planted patio all merge together as outdoor space, but with varying degrees of openness and protection from winds (picture below). Above the living room is a screened roof terrace, with the massive chimney wall providing a wind-break that makes it possible to cook and eat in this spot as well as on the lower level.



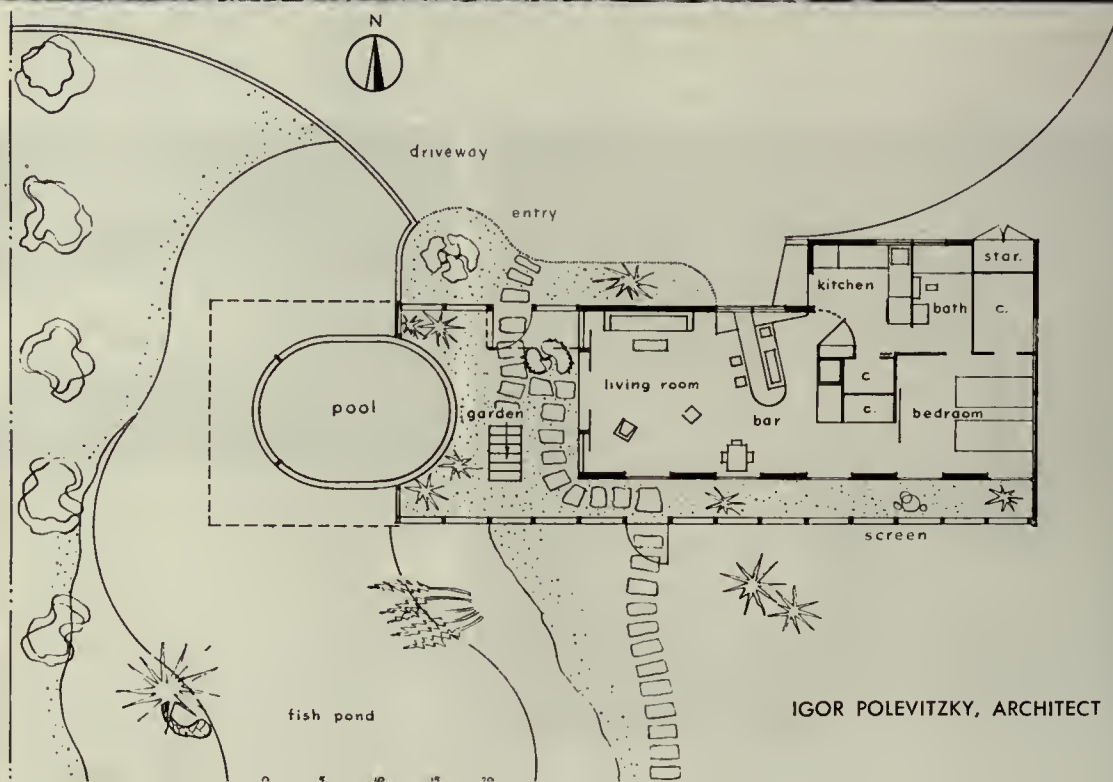
SAN ANTONIO, TEXAS

Planned as a duplex or two-family house on an ordinary lot, a prime requisite was orientation so that both units would equally benefit from the prevailing south-east breeze and receive full winter sunlight. An aluminum fence and high windows on the street side provide protection from the winter north winds and insure privacy from the street. The roof slope is virtually that of the grade which is also the natural flow of air in summer. All possible hot-air pockets are eliminated by natural ventilation. A sheet aluminum awning shades the bedroom windows. Adjustable louvers on the exterior of the living room window wall are faced by windows which lift to the ceiling by pulley-operation (see photograph on opposite page and section below). Wires in tension support the aluminum roof and wall of the dual-purpose terrace (photo below), which serves as an outdoor living space and as a car shelter. Due to the slope of the site the bedrooms are on a higher level. The main living space on the lower level is basically a square which has been divided up into living room, study and a kitchen which is separated only by counters and cabinets.



J. GLASS, DESIGNER





MIAMI, FLORIDA

Almost entirely opened to the warm sun and breeze which prevail ninety percent of the time in sub-tropical Miami, this house designed by Igor Polevitzky is in essence only a screened shelter with a minimum of enclosed space for use during inclement weather. Daring in its concept and dramatic in its appearance, it embodies many of the most desirable elements for a Florida house. It admirably meets Mr. Michael Heller's requirements: a house with a view of the Miami skyline and Biscayne Bay with as much open space as possible and casual cooking and sleeping areas. Within the airy screened structure, 20 by 72 feet, is an excellent plan solution. Entrance is through an inside garden which gives access to the three levels: the sheltered living space, the pool-terrace, and the upper deck. On the lower level, to the left of the entrance, is a living room, kitchen and enclosed master bedroom; above this area is the deck, open on both sides to the breeze, with enclosed cabana-guest room at the rear; the pool and cantilevered terrace are on the intermediate level. The circular swimming pool is lifted above ground level to insure fresh-water supply (at sea level one hits salt water by digging a few feet) and is drained into the shallow fish pond out-

side the house. Bedrooms on either floor give a choice of sleeping rooms: the first floor bedroom in cooler weather, the second floor room for warm nights. With the breeze from the southeast and the view to the southwest the house is opened to both exposures. Enclosed only with the plastic screen walls and ceiling the pool and terrace invite the sun. The deck is raised high to catch every breeze, has a ceiling of asbestos-cement panels for shade, and rail-high canvas panels for privacy (see photograph below). One wall of sliding glass opens the living room to the patio garden. Windows in this room and the master bedroom on the first floor are floor-to-ceiling aluminum double-hung sash. The entire window is fitted on the outside of the wall, which allows the upper sash to be lowered below the floor line and thus have an opening two-thirds of the full height (the lower one-third of the sash is fixed). Wide eaves, concealed within the screened frame, give protection from rain. The ground floor is of concrete block walls, concrete joists and precast concrete floor slabs; second floor is of poured concrete. Clearspan steel bar joists, supported on wood columns, with asbestos-cement panels and screening, form the second floor roof.





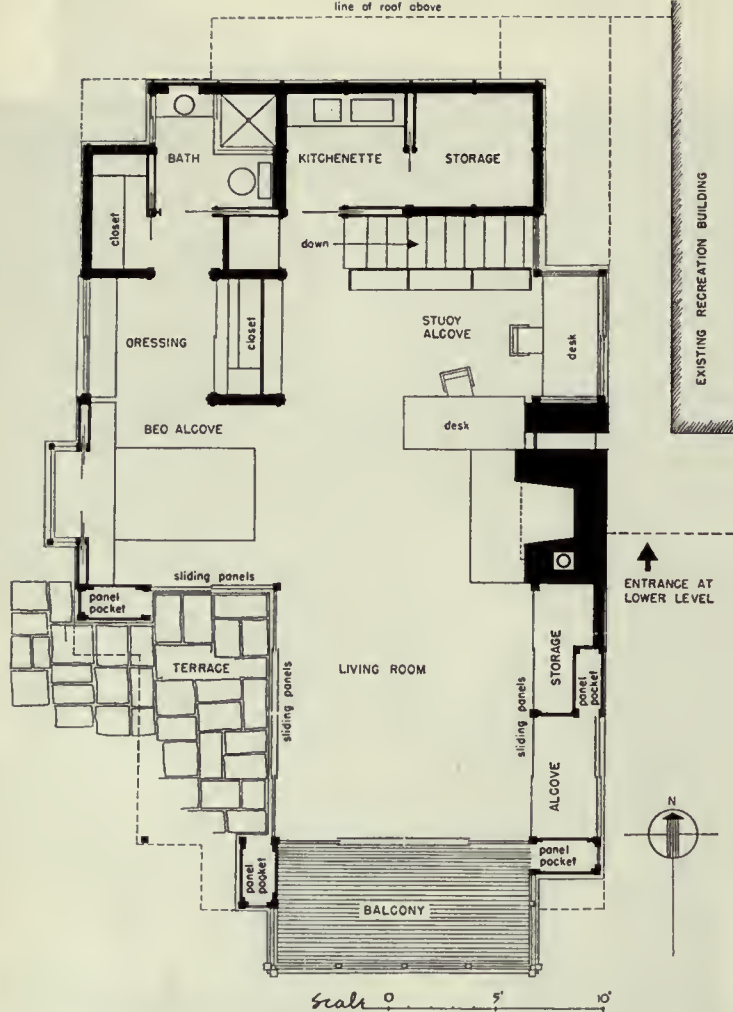
Above: the entrance side with swimming pool at right.

Below: view from pool of living area below, deck above.

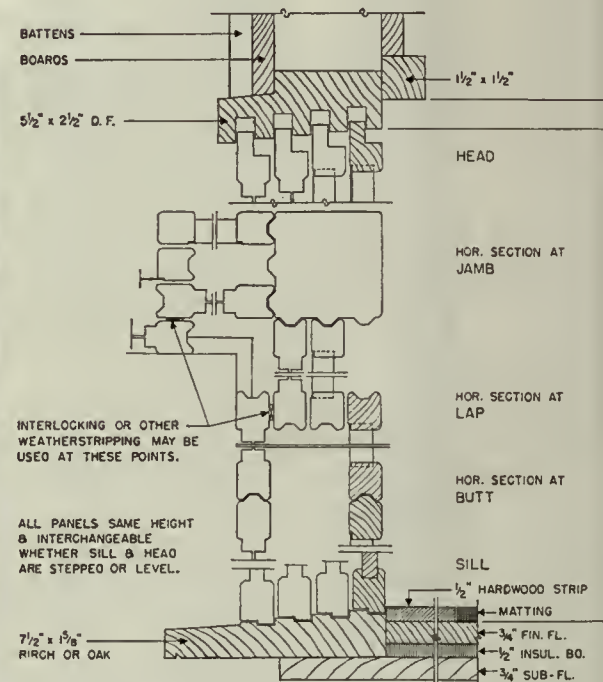




REDDING, CONNECTICUT, *continued*



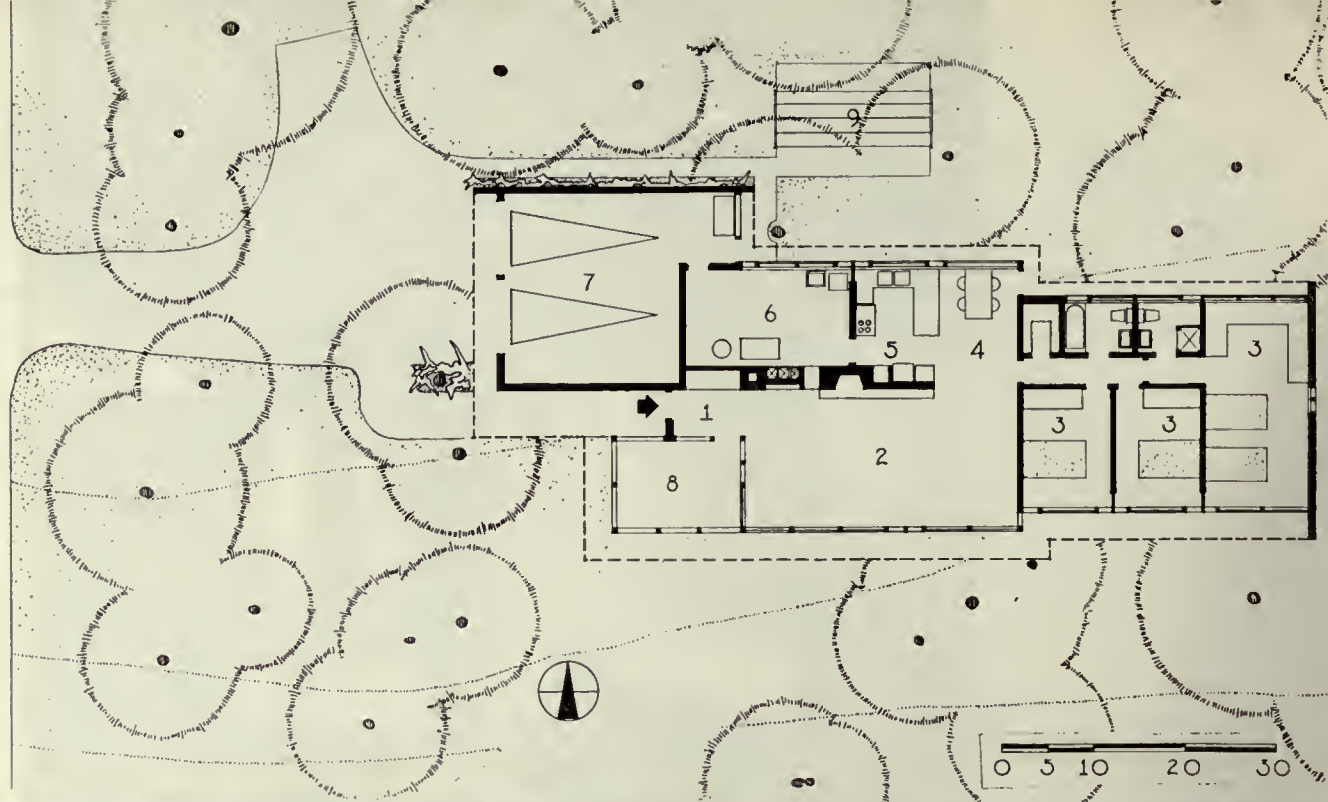
In designing a house for the Gerald Loeb in Connecticut, Harwell Hamilton Harris was faced with the problem of providing a retreat which could be used either summer or winter (the house has proved itself so well that it is now used for much longer periods than had been originally intended) with the temperatures inside comfortable under any circumstances. The solution is based primarily on the use of sliding wall panels — easily removable and stored away — which are of three kinds. As the detail below shows, there is one set of glass panels (for the winter, when solar radiation is invited), one of waterproof, translucent plastic (for elimination of sun's rays during the hot summer days), and one of insect screening (to allow the most complete through ventilation on evenings when the wooded glen in which the house is situated becomes pleasantly cool). This detail is not only important in the sense of providing a comfortable environment—the wall panels in themselves go a long way in setting the scale and delicate proportions of the house. The photograph at the bottom of the opposite page shows some of the patterning that can result from the use of the panels. Connected to an existing building (at the right of the photograph on this page) the new pavilion is essentially a one-room space, with an alcove for sleeping (upper picture on opposite page) and a kitchenette at the north end. Other measures used successfully to keep the indoor temperature comparable to the outdoors on cool evenings are ventilation through at the ceiling level (there are exhausts at each gable and at the fireplace) and a floor lifted above the foundations sufficiently to provide under-floor ventilation as well.



Detail of Sliding Panels

HARWELL HAMILTON HARRIS, DESIGNER





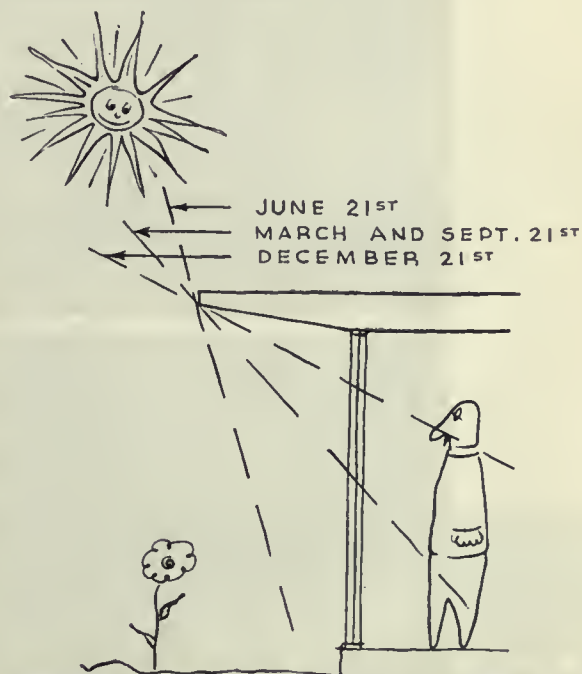
BENSENVILLE, ILLINOIS

Mr. and Mrs. John Spence turned to George Fred Keck and his brother William when they wanted to build a house on a rather flat, wooded site in a suburb twenty miles from Chicago. Their primary reason was because this firm has long been interested in and has experimented with the most effective type of natural control of the environment in this climate — full use of solar radiant heat. This is a "solar house" in the best sense. It turns all of the principal rooms to the south and extends the roof beyond the wall line to allow the winter sun in and keep the summer sun out (see diagram below). It ventilates the living and bedroom spaces by full wall-height panels of louvers on either side of the glass walls (these louver panels can be seen in the exterior photograph on the opposite page — in the living room picture below they are behind the curtains). Finally it coordinates these natural heating and ventilating devices with a radiant floor panel heating system, carefully balanced by inside-outside controls. The program for this house was

1. Entrance
2. Living
3. Bedrooms
4. Dining
5. Kitchen
6. Utility
7. Garage
8. Porch
9. Drying Yard

simply to provide a place for a well-rounded family life, convenient and healthful, with full enjoyment of the outdoor view, the surrounding oak trees, the snow-covered ground in winter and the wild flowers which still grow in this undeveloped area in summer. This house which turns its face to the sun seems to answer all those requirements. A solar house, limited in plan by the need to face all main rooms south, is not too easy to work out for circulation and convenient access to all spaces. Here some intimacy has been sacrificed around the living room fireplace in order to get from the entry to the bedroom corridor — a solution which some would object to and others would not mind. Relationship of the L-shaped living-dining room to the kitchen on the one hand (and through the kitchen to the utility room and the garage) and to the bedroom wing on the other hand, is excellent. A generous porch has been provided at the southwest corner of the house, for the semi-outdoor living which is reasonable in this climate.

GEORGE FRED KECK — WILLIAM KECK, ARCHITECTS

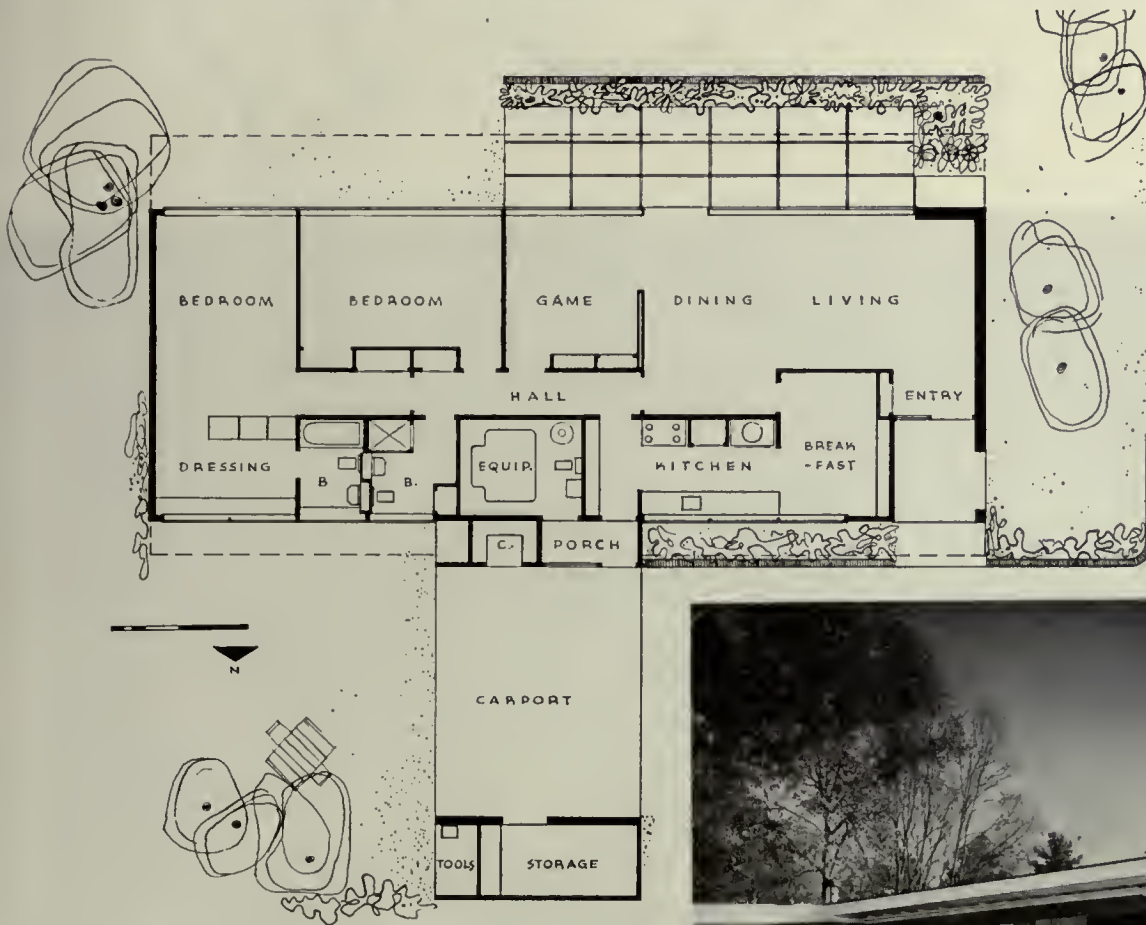




SHREVEPORT, LOUISIANA

While a great deal can be done in the warmer southern climates to provide coolness by natural means — louvers, cross ventilation through the house, and other methods that we have seen, as in Dean Kamp-hoefner's house on pages 154 to 157 — reliance can also be placed on mechanical devices. In the house for Mr. and Mrs. Sylvian W. Gamm the architects used a winter-summer air-conditioning system. However, they do not depend entirely on this to solve climatic problems; the load on the air-conditioning unit during the summer is reduced by air circulation through the roof construction. (The photograph at the top of the facing page shows the continuous line of openings between roof beams, in the underside of the eaves). In addition, the deep overhangs themselves help provide coolness. Entrance to the house

is from a street at the west (the right-hand end of the plan below) and the plan is so devised that all important rooms face south to the view and toward the widest expanse of the acre-sized property. These rooms gain sunlight and, fortunately, the prevailing breeze as well by being oriented southward. The carport is to the north, and all of the "utility" rooms — baths, kitchen, and the centrally located air-conditioning equipment room — are on the north side. The simple rectangle, with the protruding carport sheltered under an extension of the main roof, was inexpensive to build and has proved efficient to operate. Lower picture on opposite page is of the living room looking toward the game room, which can double as a guest room. Below, the entrance at the corner of the house, carport to the left.



SAMUEL G. & WILLIAM B. WIENER, ARCHITECTS

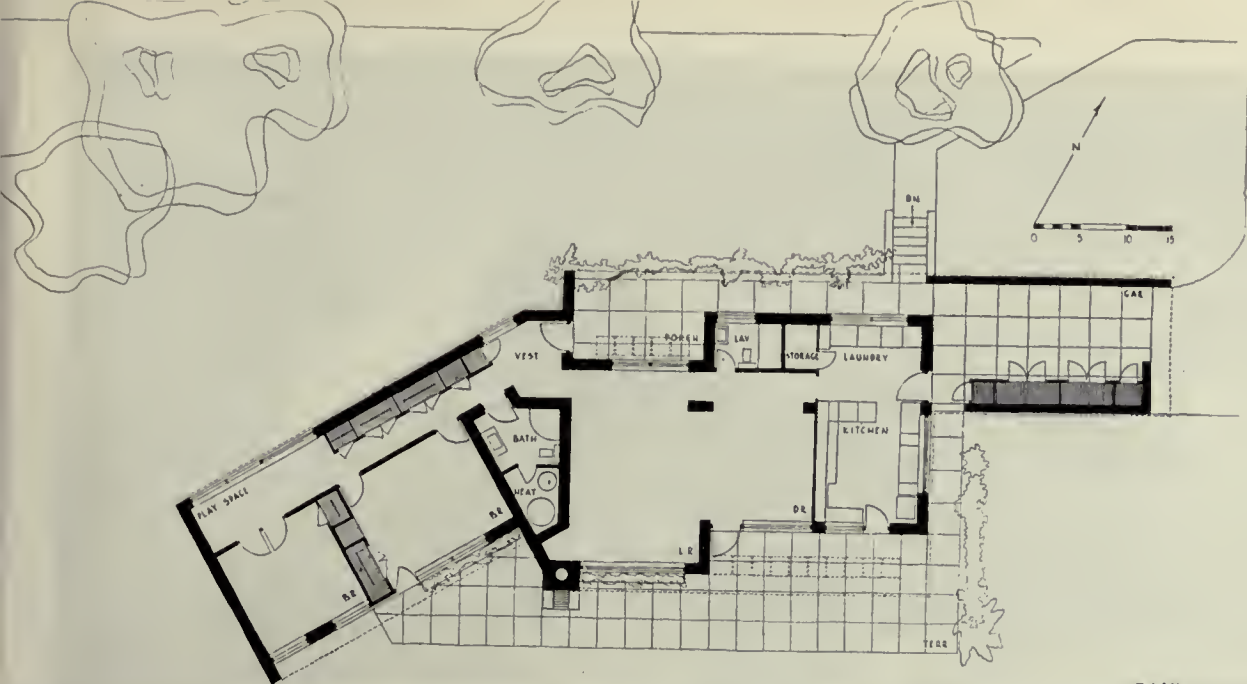


EASTON, PENNSYLVANIA

Some measure of acoustic control in a house is always highly desirable: when construction materials with reverberant surfaces are used, such as brick, concrete and glass, solving the acoustical problem is essential. Architect Paul Beidler, who gave careful study to the use of all materials in this house for Joseph Rose, solved the problem by using a sprayed acoustical insulation on the ceilings for the first time in an individual house. He reports that it has perfect acoustic qualities and a soft pleasing neutral finish. It is also economical since it takes the place of three materials — insulation, plaster, and paint — normally used in a conventional ceiling. Grey construction bricks laid in parallel courses six inches apart form the exterior and interior walls. The cavity between is insulated with a fill of sawdust. Radiant heating pipes are im-

bedded in the concrete floor slab, which was left natural in color and thoroughly sanded and waxed to give a handsome polished surface. The combination of these various materials (as shown in the living room on opposite page) successfully meets one of the owner's requirements, that of easy maintenance. The other requirements — plenty of sunshine and adjoining indoor-outdoor areas, have also been skillfully solved by the architect. For sunshine, every room faces south with large expanses of glass (see photograph below); for relationship of indoors to outdoors, all rooms with the exception of one bedroom open directly to the terrace on the south. Wide projecting eaves give protection during the summer to both glass areas and terrace. Floor-level transom windows are below the fixed glass walls for ventilation,





PAUL BEIDLER, ARCHITECT





ANDOVER, MASSACHUSETTS

The owners of this house designed by Bernard Kessler are in their middle years, enjoy doing their own work (both husband and wife are good cooks) and like to putter in their garden. The house is designed, therefore, to make life easy and pleasant, with such mechanical problems as heating and lighting as unobtrusive and as little bother as modern technics would allow. The heating system uses radiant ceiling panels. Lighting is largely through recessed fixtures; in the living room on two sides there is a protruding lighting trough (photograph at the right) which conceals cold cathode tubes controlled by a rheostat. In plan, the house uses a sloping site which falls away to the west, allowing the bedrooms to be raised above grade, which the owners wanted. The living room faces a terrace (lower picture on opposite page) which sits somewhat above the slope of the grade (at the left of the upper picture on the facing page) but from which one can wonder down to the garden. The trellis arrangement at this terrace may someday be screened. The arrangement of kitchen and dining room is perhaps unusual, but works well for the desires of the owners. The lower photo on this page shows the screen wall panel which is the only separation between cooking and eating spaces.



BERNARD KESSLER, ARCHITECT



The ways we have to build are strong influences on the sort of buildings that we produce. The Greeks and the Romans became masters at the art of placing polished stone on polished stone to form walls and columns and even huge arches. The architecture they produced, including the delicately sculptured capitals of their columns and the methodically modulated entablatures which were their girders, was a direct result of that method of building. During the Middle Ages designers and builders found ways to use masonry much more delicately, in thin ribs and vault forms sensitively buttressed with "flying" arches. They produced skeleton structures, both in masonry and wood, which left great open wall areas to be filled in with glass or curtains of brick or stucco. It seemed as though no new building forms were possible, because presumably every method of construction had been explored, until the industrial revolution offered radical, completely new possibilities.

Three things have changed: the wider choice of materials, the method of fabrication, and the method of construction. *Materials* will be discussed later: here it is enough to say that the manufactured metals and their many alloys, greater knowledge of the plastic possibilities in reinforced concrete, the development of the glass industry to a point where large, clear sheets were commercially available, and the fusion and processing of many materials into panels, such as cement-asbestos combinations and wood fiber products, have so far been the important developments in a structural sense.

The manner in which materials are processed before delivery to the site—*fabrication methods*—has had perhaps the strongest effect up to this point on the way our buildings look, and the way they function for us. Let's take a very obvious example. If a wood beam is going to be sized and finished with an adze just before it is fitted into place in a house, one sort of structure will result. If that beam comes from the mill cut to specific dimensions, roughly dressed, perhaps even notched and fitted for joining with adjacent members, it is inevitable that another sort of building will come forth. To be more drastically comparative: the architecture of four-foot wide wall panels finished on both sides, with insulation built in at the factory, must be very different from the architecture of wood studs nailed to a sill, supporting a girt, covered inside with lath and plaster, having insulation tucked between them, faced on the outside with sheathing, paper, and siding. It is possible, of course, to pretend that what is so isn't so, to warp modern materials into imitations of older ones, to cover the facades of houses with false facings so that the nature of the structure is concealed. There is nothing *immoral* in this; it is just contrary to the principles that have produced all really fine architecture—the full exploitation, esthetically as well as functionally of the things available to build with.

It is in the utilization of *construction methods* that we have been most laggard in our time. Manufacturers of building materials have, generally speaking, been as advanced as the builders in the construction industry have allowed them to be. Architects and engineers have made numerous studies of the way in which construction methods could be improved and have designed many individual houses to demonstrate their theories. But unless they have suitable materials available and the builder at hand who will put them into effect, these remain individual and isolated efforts. The builders blames it on the mortgage lenders, the bankers on public acceptance, while the client points to the local building code which restricts him.

Some advances have been made in breaking into this vicious circle; builders are more interested in time- and labor-saving methods than they were a few years ago; bank officials have relaxed their frowns somewhat; strong moves are underway in various parts of the country to modernize building codes. But the big break won't be until the public understands and demands the benefits that could come from more up-to-date methods of building. For the sake of simplification, let us consider just two very important aspects of the problem: the elimination of bearing walls, and methods of jointing.

It is no longer necessary or desirable to support a roof on a continuous wall, either of wood or of masonry. Basically a house, like any other enclosure for whatever purpose, has to have a top and sides, for protection against changes in the weather and against prying eyes. A dome form would make roof and walls merge and become one, but our technology so far has not found a way to produce such a shape as economically as the simpler concept of a roof, somehow held up, with side walls. The roof can't be hung (this too has been tried, with the roof hung from a central mast, but again the technical and economic problems are too great) so it has to be supported from below. The walls, however, can be mere curtains of glass or any other non-supporting material, so long as they keep out the rain and cold and allow privacy. So it seems to make sense to provide as few and as thin supports for the roof as we can. On the pages that follow, the photograph of a house of Kenneth Kassler's under construction (page 206) shows well how simple this skeleton frame can be. Eames' house, on the next three pages, and Soriano's forward-looking house on pages 196 to 198 show the final results of two steel-skeleton schemes, where no outside walls carry any load; the Drake house and the Stone house (pages 189 to 193) have wood post systems which accomplish the same structural aim—regularly spaced columns carrying the room framing and freeing the wall between them. This is, of course, a well-known principle in tall building construction—the steel-frame skyscraper is one of the contributions we have made to the history of building—but it takes a long, long while for it to be generally applied to the more simple problem of residential building.

Once this principle is accepted, many economies in construction methods will become possible. To name just one, the Southwest Research Institute in Texas has developed what is known as the Youtz-Slick system of pouring a concrete roof (or upper floor) on the ground, with the building's columns sticking up through it, and then raising it by means of hydraulic jacks after it has set—letting it slide right up the columns until it is at the proper height. A number of architects and builders are using the system and finding many economies in it.

Another important aspect of construction is the matter of *joining*—one might say *jointing*—the larger and larger elements that go into our buildings. The carpenter with his mouth full of nails put together many wonderful buildings, but today a few nuts and bolts, or a few screws down the length of a wall panel (if the detail is right) can do the same thing much more simply and in a manner more appropriate to the materials used. An architect named Konrad Wachsmann, with Walter Gropius, has devised and is marketing a prefabricated house in which the whole secret is the joint between panels. A more simple illustration is the X-shaped wood post used in the Johnson & Whitcomb house illustrated on page 207. Wachsmann says "the joint relationship between the mass-produced elements . . . becomes the all-important keypoint." Johnson & Whitcomb say, "the cross form to accommodate interior and exterior panels eliminated the need for any complicated machinery of production." Factory or site produced, easily joined elements will make erection simpler.

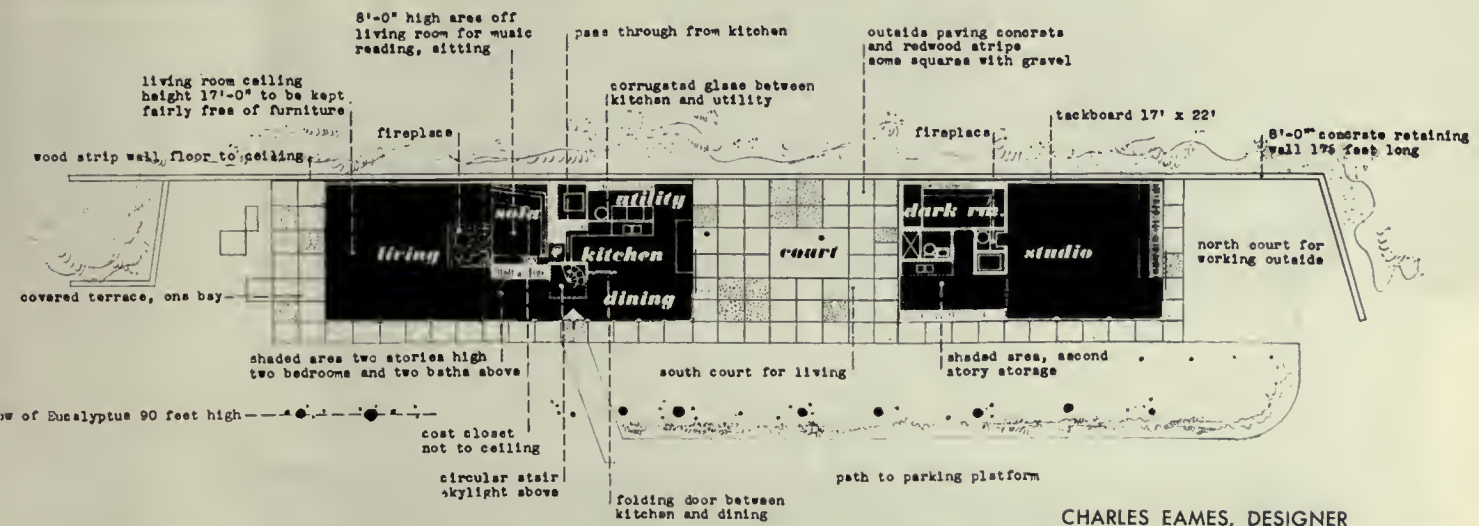
No person—architect, builder, manufacturer or client, is going to change overnight our traditional attitudes toward building construction in the residential field. But a greater knowledge of the possibilities and a closer study of what has already been done will help to bring nearer the day when the techniques of our time produce better houses.

PACIFIC PALISADES, CALIFORNIA

Many people are now enjoying the furniture designed by Charles Eames. His approach has been to produce contemporary objects, light, comfortable, pleasing to look at, that would take advantage of modern industrial methods of manufacture. When it came to designing a house and studio for himself, as part of the Case Study program of the magazine *Arts and Architecture*, Eames felt that these same criteria should apply. His object was to enclose as much space as possible (the living room is 18 feet high) as inexpensively as possible by a maximum use of industrialized elements. That the result is as airy and delicate a structure as it is, can be attributed to his choice of the standard members to be used. For instance, the frame of the house is steel, of standard shapes, but Eames chose light-weight open-web joists, covered them with steel factory decking, and left them exposed to form the tracery pattern that the photograph at

the right shows. All sash is of standard steel sizes, but it is the selection of the "architectural projected" type which makes them relate so well to the fixed glazed sections and the contrasting stucco panels. There is much to be learned about residential construction from this house: the fact that the unusually high space (plus a 200-foot long retaining wall) was built for a square foot cost comparable to conventional construction; the fact that the frame of the house was erected by five men in sixteen hours; the fact that the result is light and airy and gracious: these things point to possibilities ahead. The fact that the integration of lighting and mechanical equipment with the steel frame was difficult; and above all the fact that the design required an unusual amount of study and superintendence: these things point to some of the difficulties there will be in changing traditional methods in the construction industry.





CHARLES EAMES, DESIGNER





Studio and dark room are in a separate building. The main structure contains the huge living room at one end, the kitchen and dining room at the other. Above the kitchen wing are two bedrooms, which look down

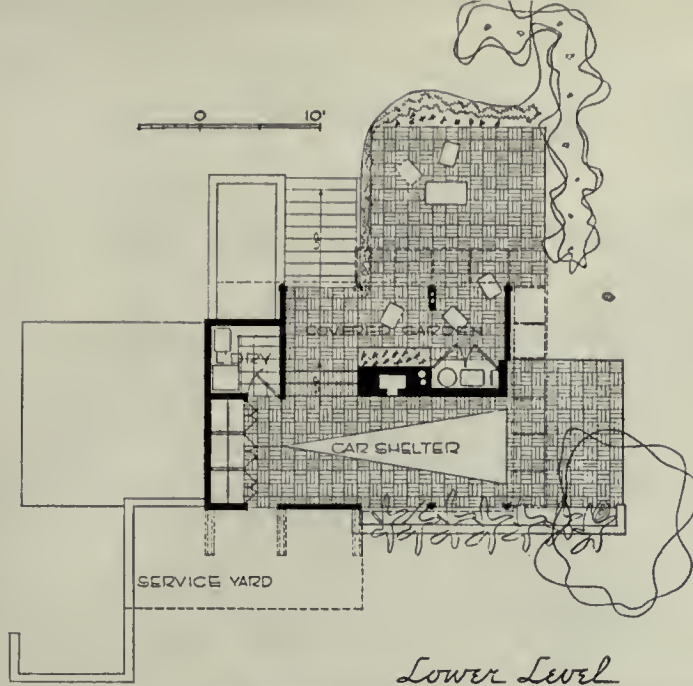
on the living room (photograph above) but can be closed off by means of sliding glass panels. Under the end of this bedroom "gallery" is the sitting area shown below, made more intimate by its lower ceiling.



LOS ANGELES, CALIFORNIA

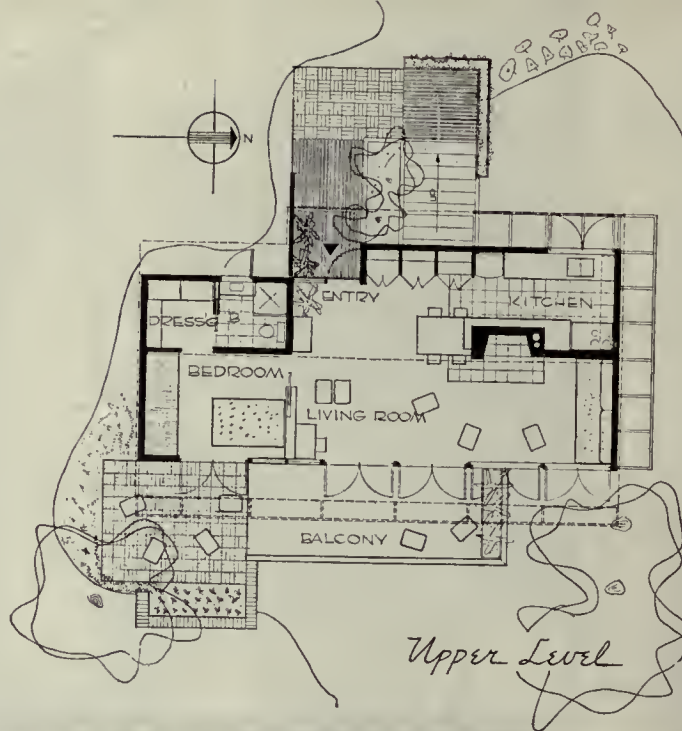
To solve an unusually difficult site problem Gordon Drake, the designer of this house, made a virtue of a necessity and developed a simple but ingenious construction system. With a lot only thirty-five feet wide — situated in a wooded canyon cornered by a rocky ledge cliff on the north side and approached by a precipitous road — Mr. Drake anchored the house to the hill on the south side and lifted the main living areas to an upper level to raise them above the treetops for a vista and sunlight. The lower level (shown on the plan opposite and photograph below) is opened up on three sides by the use of built-up wood posts, six feet on centers, which act as supports for and continue up through the upper level. A car shelter, laundry, service yard, and covered garden are neatly fitted into the lower level. Beyond the covered garden is an outdoor terrace sitting room, tucked into the curve of the steep hill. A large masonry pier screens the service yard from the garden-terrace. The upper floor (shown on the following pages) is reached by a flight of stairs leading up from the lower garden room, or by means of a ramp off the hill.

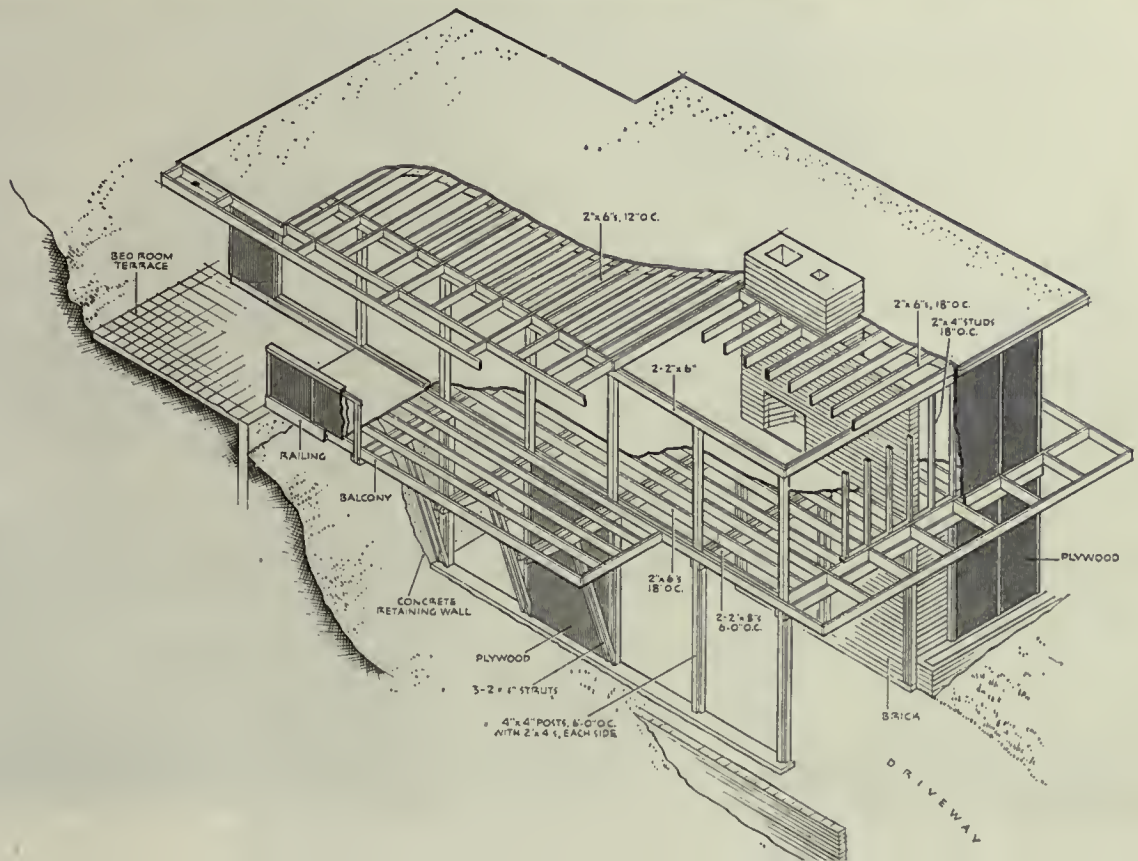
GORDON DRAKE, DESIGNER



LOS ANGELES, CALIFORNIA, *continued*

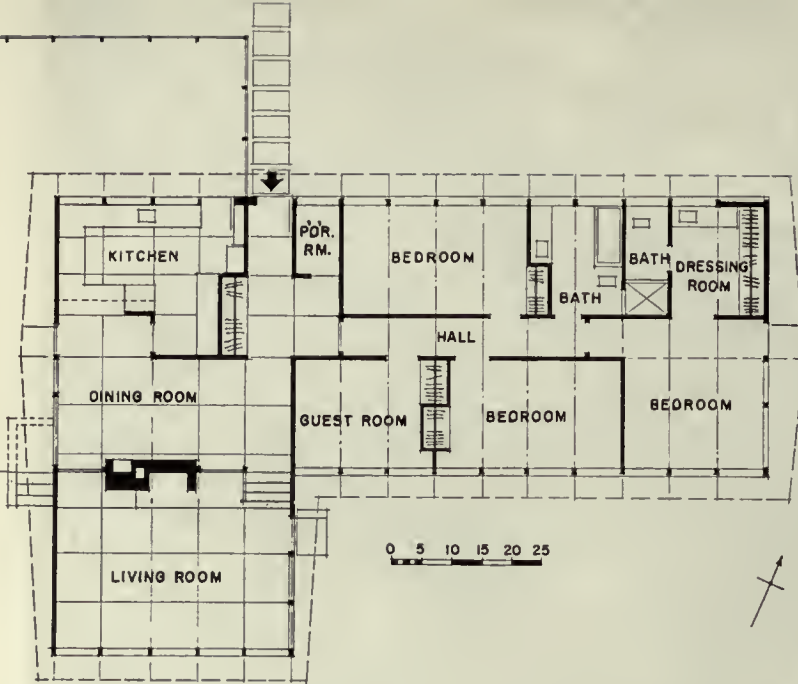
With a buildable area of only 30 by 35 feet, designer Drake skillfully incorporates all the necessary elements of comfortable living quarters in the upper level of this house for Mr. and Mrs. George Spillman. The entire east wall of the living room is glazed and opens to a balcony (see photograph below) increasing the scale of the room. Few partitions — a fireplace wall separating kitchen from living room, and a partition which houses a bookcase and desk on the living side and headboard on the bedroom side — also seem to add to the actual dimensions. On one side of the bedroom is a dressing room and bath, and on the east side a small secluded garden terraced into the hillside. The isometric drawing at the bottom of the opposite page illustrates the simple structural system, based on four by four wood posts, two stories high, reinforced at the lower floor with additional two by fours on each side. A plywood skin acts as structural stiffener. Wood framing is independent of the chimney to comply with earthquake design requirements. The esthetic concept (as well as the practical one) of the construction system, combined with the brilliant solution of the design, gives the impression that this tree-top house literally grows from its site.





WHITE PLAINS, NEW YORK

Sometimes a construction system is adopted because of site conditions, as in the preceding house; sometimes because it is particularly suited to the program and the quality of the design desired, as in this house designed by Edward D. Stone and his associates for Mr. and Mrs. William Rayburn and their four young children. The Rayburns wanted to use materials that would be easily maintained, and they wanted a house which would have a rural, unsophisticated character, consistent with their servantless method of living. The property, on a pleasantly sloping wooded site, also seemed to call for this natural, almost rugged approach to the design. The structural solution is the most uneffected one that could be imagined, going back in many respects to the methods of building of the early American carpenters. Wood posts, which also act as window mullions, are spaced four feet on centers. Framing into these posts at the eaves line are doubled beams, which span across the entire width of the house. The elements of this system are admirably shown, in the natural and frank way they have been used, by the two photographs of the living room on the opposite page. Throughout the house, in bedrooms and children's playroom as well as the large living and dining areas, the natural wood surfaces have been left exposed.



EDWARD D. STONE, ARCHITECT
KARL J. HOLZINGER and ROY S. JOHNSON, ASSOCIATES

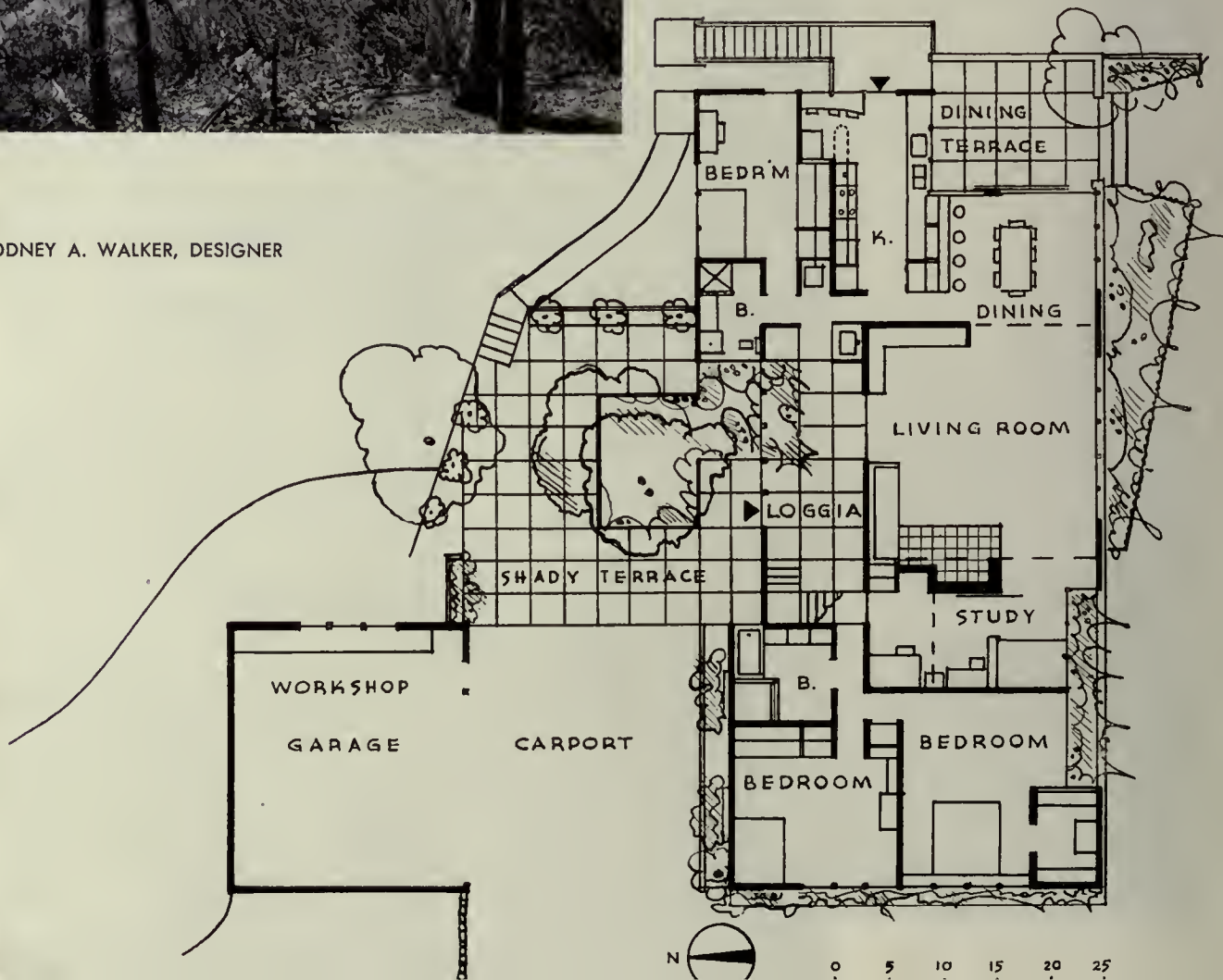




LOS ANGELES, CALIFORNIA

The house on the preceding pages used a four-foot module for a rugged post and beam system. This house, designed by Rodney A. Walker for himself and his family, is based on a three-foot module, also in wood, also making use of the posts as mullions, and the difference in scale and design result is at once apparent. One reason for the greater smoothness here is the plywood sheathing inside and out on walls and ceilings, and a system of diagonal truss bracing in each three-foot bay which gives the stiffness that heavier members and a plank, pitched roof gave to the Rayburn house. Situated on a rather small hillside lot sloping south to the major view of ocean and city, the house has been planned to take full advantage of the property. A semi-enclosed roof deck over the bedroom wing (plan and photograph at top of opposite page) was developed for a part of the family's outdoor living, to free more of the ground area for terrace and lawn. On the lower floor (plan below) one enters a loggia which leads directly to living room, service wing, bedrooms, or up a very open stair to the roof deck. Study, living room, dining room, and dining terrace have been so arranged that they can be closed off from one another by sliding and folding partitions, or thrown together into one large space, as the photograph at the bottom of the opposite page shows. The kitchen (see photo at right) has been carefully planned for convenient work and service without regular servants.

RODNEY A. WALKER, DESIGNER





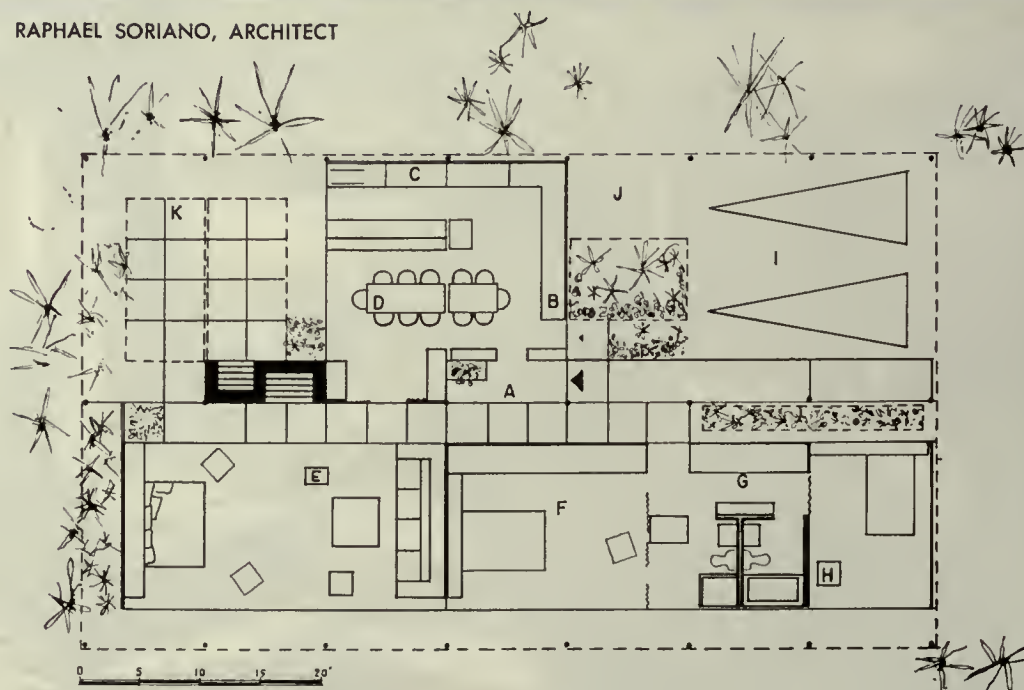
LOS ANGELES, CALIFORNIA

Having looked at three houses based on wood structural systems, we return again to the use of steel framing, but with a very different application from that in the Eames house which opened this section of the book. In designing the 1950 Case Study house for the magazine *Arts and Architecture*, Raphael Soriano was determined to do the most rational and simple thing that modern technology allowed in enclosing flexible and inexpensive space. The house is a rectangle forty feet by seventy feet. Steel pipe columns $3\frac{1}{2}$ inches in diameter support the roof, and they are spaced regularly, ten feet on centers in the long direction, making the seven bays that show in the photograph below; and twenty feet in the short dimension of the house. On this pipe-column grid six-inch deep steel beams span the twenty-foot dimension, and corrugated steel roof decking stretches across the ten-foot space between them. There are no supporting walls or partitions; this steel frame is all that there is to the structure as such. Exterior facing is

almost entirely glass, with curtains used to provide privacy where and when it is needed. Interior divisions are, with few exceptions, cabinets and cupboards or folding partitions. Within this rectangle Soriano has arranged the space so that there are many variations and differences in scale and in texture. One corner of the rectangle is used as carport (I in the plan below) and from it one approaches the entry (A) and steps into the living room (E). Three aspects of this room are shown on the opposite page: a view from the outside, above; looking into the room from the entry, below, left; and looking back from the room into the dining room, below, right. Another corner of the rectangle is used as a dining patio (K) entered either from the living room or the dining room (D) and the kitchen which wraps around it (B and C). Bedrooms (F and H) occupy their own corner. Colors and textures of furniture and furnishings have been carefully chosen to suit the character of each room, making a simple structure warm and colorful.



RAPHAEL SORIANO, ARCHITECT







Above, a view into the smaller bedroom. The sliding glass walls are placed back of the outer line of the concrete-floored, steel-roofed structural grid, with the pipe columns exposed.



Right, a view of the dining patio, looking ahead into the end of the living room, at the left into the dining room. Roof is open to the sky in this area by omitting decking.



Right, the entry, looking from the carport through the entrance hall into the living room.

Use of Materials

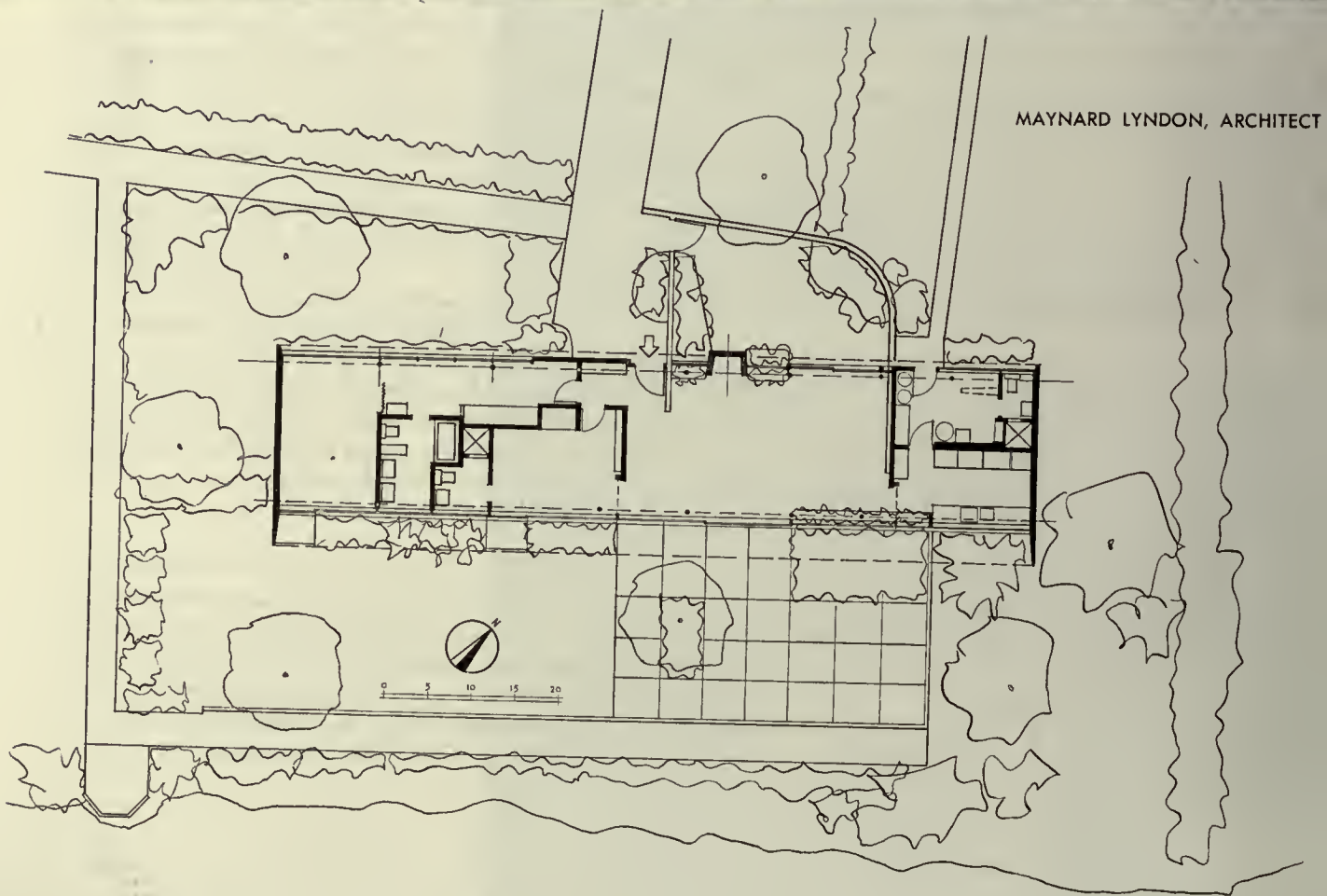
"I like a whitewashed brick house," Mrs. Farragut says, "It has such a nice warm and cozy feeling." And Mrs. Honeywell rejoins, "Personally I want to have a white clapboard New England house—low, with some *symphoricarpos caprifoliaceae* growing up around the front door." The gadabout in the group, Mrs. Jeremy, asks, "Have you seen the new house the Remingtons have built out in Woods Hole? It has one wall all of glass and when I heard about it I thought it was going to be all cold and hard and, you know, modern, but I was there the other day and really after you've been in it a while it isn't bad at all. It gives you a sort of relaxed feeling—it's so open and all—so, oh, uncluttered."

Associations with certain materials—definite nostalgias, and emotional reactions which make one material say "warm" to you and another say "cold"—are an important and perfectly justifiable reason for selecting them when you are going through the process of building a house. Acceptance of "new" materials (even old materials with which we are not so familiar) requires a period for acquaintanceship to develop and new associations to be formed. Buckminster Fuller's all-aluminum house was such a radical departure from all familiar houses that very few potential customers took to it; on the other hand, the use of natural-finished woods, such as cypress and redwood, as exterior surfacing instead of the once-irreplaceable white shingle or clapboard is now commonly accepted.

Materials do force themselves on us for esthetic, personal and emotional reasons because of their sensory characteristics—texture, feel, color, even odor. But we would be very foolish indeed to let these arbitrary reasons be the only ones for selecting materials of construction. Materials also have physical characteristics. They do things (or they refuse to do things). Some of them are stronger than others. Some are softer, more resilient. Some reflect heat and some absorb it; some bounce sound waves away and others cushion them. And then there is the eternal question of maintenance; how will a given material stand up over a period of time? Some of them rot, some rust, some crumble. They have their uses, but they must be protected against their own weaknesses.

There used to be another very important reason for the selection of materials, and it still has some validity; that is the local availability and the indigenous character of the substance. Transportation ease has made it almost as reasonable to use redwood in the northeast as in the west; pretty much the same sort of brick is available anywhere in the country; and the manufactured materials are not restricted to any one spot. It is still true that many of the stones and some of the woods look best in their native habitat, among the fields and the trees that produced them, and a number of houses in this book illustrate the fact (Kahn's use of Pennsylvania fieldstone, for instance, on pages 232-234).

What is the modern use of materials? It is not, we think, another arbitrary urge to use something just because it is new. It is rather, as it has been through all of history, an understanding of what materials are available, what they will do for you in a practical sense and in an esthetic sense, and a selection for those reasons. The houses that follow show what can be done with some newer materials like aluminum, cement-asbestos board and light-weight concrete blocks, and they also show more recently developed uses, through a greater understanding of their possibilities and their limitations, of some of the older, more familiar materials such as brick and stone and wood.



MALIBU, CALIFORNIA

Although there is a great variety of materials used in this house, designed by architect Maynard Lyndon for his own family, they all have practical and structural as well as esthetic reasons which are completely valid. What is more, they blend together to create an unusual and pleasantly serene house. The site is on Point Dume, a peninsular projection of Moor country at the foot of the Santa Monica Mountains. A major requirement was for maximum view of the ocean from all areas except the service room. The view is southeast with thirty miles of unbroken shore line on half the 180 degree horizon. The rectangular plan is bridged by a thin concrete slab which is made up of the concrete roof and the two end walls. Longitudinal earthquake stresses are taken by the kitchen and service room wall; other interior supports are pipe columns. The two long walls are almost entirely of glass — using sliding aluminum doors, windows and screens — with heat-resisting glass on the ocean side to cut glare. Throughout the house emphasis has been on fireproof materials. All ceilings and some walls are of perforated transite with acoustic backing. Floors are of waxed chalk-white concrete. Heating is by floor radiant panels; electric cable is embedded in two-inch concrete topping, thermally insulated from the structural slab; individual room control is possible with thermostats and relays. The many materials used in this house, some of them unusual in residential design, help produce the esthetic result as well as serve fireproof and earthquake-proof requirements.





Above and below, walls of heat-resistant glass roll open to join living room with terrace, ocean view.

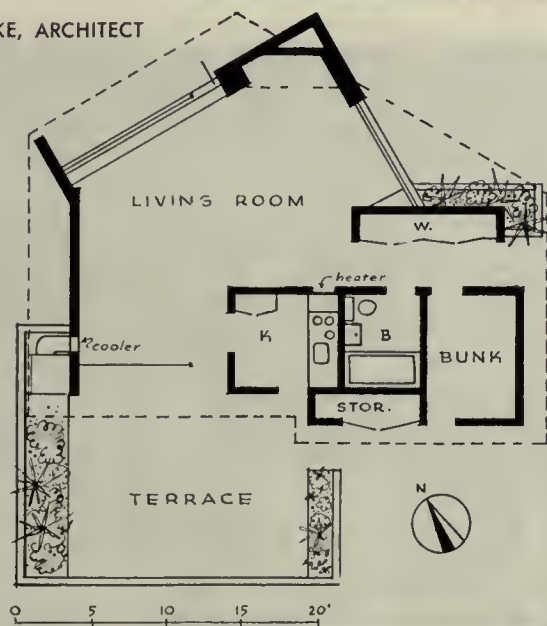


At right, sliding glass walls in bedroom wing are translucent to provide privacy on the entrance side.





BLAINE DRAKE, ARCHITECT

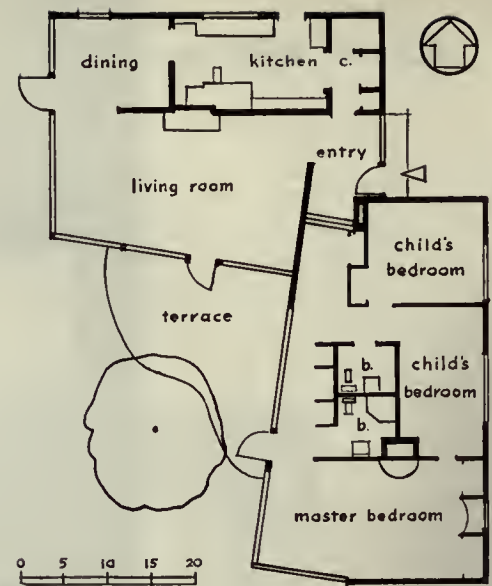


In a region where adobe once was the traditional building material architect Blaine Droke has successfully used pumice-cement block walls which are left with their natural finish. This more recent building material has as good insulating qualities against the excessive heat of Arizona as had the older and cruder adobe. Designed on a minimum budget (\$4,700) this small winter home for Mrs. Marjorie Kumler is situated in a sparsely settled desert eight miles from Phoenix. Because of its relative isolation, views are undisturbed in all directions and the natural desert growth has been left intact. Although Mrs. Kumler, whose family is grown, lives alone she frequently has overnight guests. For this reason studio beds were planned in the main room, to supplement the small "bunk" room. The large studio room (shown in the photograph below) also serves the client's literary and writing interests. Particular attention has been paid to climatic requirements. On top of the wood roof framing a two-inch thick wood fibre panel acts as finished ceiling and roof deck, and at the same time provides insulation against the hot Arizona sun. An evaporative cooler helps to combat mid-day heat. The fireplace gives warmth on chilly evenings.



COLORADO SPRINGS, COLORADO

In the house which he designed for the Irving Howberts, Jan Ruhtenberg made good use of a material which is locally manufactured in the area where he practices — pumice-concrete blocks. These building blocks are light, agreeable in texture, and easily erected. Their disadvantage is a certain porosity (in Arizona, as in the preceding house, where the climate is dry there is no problem), and to overcome this Ruhtenberg used stucco over them on a large part of the exterior of the house. Inside, the blocks are left exposed and painted, so that their scale and texture form a natural finish which is pleasing as well as inexpensive. The frame of this three-bedroom house is of steel, and the roof slab is concrete. The plan is a simple one, facing south toward a private view, west to Pikes Peak. The family is small, with plans to expand, and the house is designed for easy house-keeping and unobtrusive supervision of the children now, as well as ultimate expansion in the future.



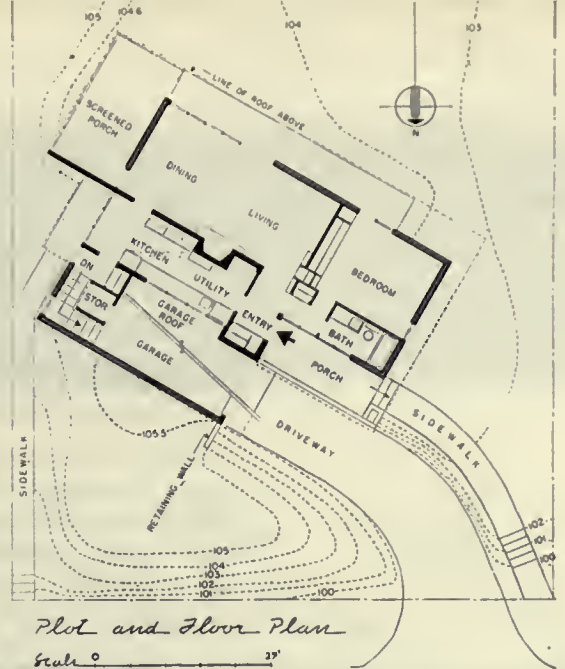
JAN RUHTENBERG, DESIGNER



DENVER, COLORADO

In a climate which has severe winters, with low temperatures, a masonry cavity wall provides high insulation value with no expense beyond the cost of the structural material itself. In this Denver house, designed for a woman librarian by Victor Hornbein, the bearing walls are of cavity-brick construction, the wythes used as finished surfaces both inside and out. The plan is a compact one-story design in a simple rectangle, containing a generous sized living-dining room, one bedroom and bath, and a combination kitchen-utility room. Situated on an interior lot, 75 x 142 feet, the house is oriented to the southwest for sunlight and a view of the Rocky Mountains. To take advantage of the somewhat abrupt bank at the front of the site, the garage and storage space are at a lower level. Floors are concrete slab on fill with asphalt tile surfacing, except in the kitchen and bath where linoleum was used. The roof is surfaced with pitch and gravel. Partitions are finished with fir plywood. Hot water radiant panels supply heat.

VICTOR HORNBEIN, ARCHITECT



Prefabrication

The idea of constructing a house—or large pieces of a house—in a central point from which it could be shipped to the site has been an appealing one to many generations of home builders. When you are trying to build a place to live in with as little waste of the family bank balance as possible, it is annoying and frustrating to see all the different small bits, and all the many workmen who have to handle and put together those bits, that begin to gather on your property. We have been through many phases of thinking about prefabrication



of houses since the English in 1624 brought over on a boat a load of panels which they built into a house on Cape Anne. Any housing "emergency" always causes someone to seek a solution in mass production methods. For instance, the California gold rush of 1848 gave some eastern entrepreneurs the opportunity of building parts of houses in New York and shipping them to the west coast. Prefabrication's big headache—distribution—immediately showed its villainous role in the scheme of things: houses which had cost \$400 in the east had jumped to an inflationary figure of \$5,000 by the time they reached the western customers. The depression, the war periods, and the crises after the wars were other emergency

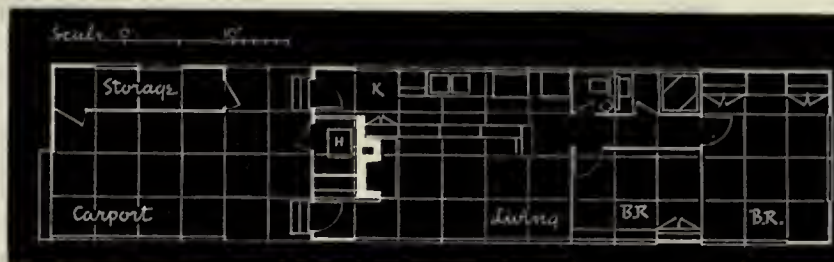
reasons for attempts to industrialize the building of houses and reduce the costly on-site, piece-by-piece construction operation. Still, with all this impetus, with lots of private and government money spent on experiments, the prefabricated house business has not yet reached industry status, and is contributing very little to the total number of places to live.

It is not the function of this book to study the reasons for this slow progress in what seems to almost everyone a reasonable direction. The causes for failure are many, and they are well documented in a growing literature on the subject. What is more important to us at the moment is what has been gained, rather than what has been lost, as a result of the experiments to date. In the first place, a great deal has been learned by conventional builders and translated to their own ways of operating. After all, prefabrication is simply the pre-manufacture of parts of a building as large as it is practicable to build them. If you are going to build just one house, it would be nice to be able to buy big wall panels instead of a lot of studs and sheathing (or bricks and mortar) and in some parts of the country, if you are near a prefabrication plant, you can. But if you are going to build many houses at the same time, you can design your own parts for prefabrication *on the site* and by standardization and simplified erection methods make each operation less costly. It is to the credit of some architects and designers that they have tackled this problem (usually, as in the case of the Johnson & Whitcomb house on the facing page, they have been costly experiments) and the builders have learned much as a result. Kenneth Kassler, New Jersey architect, has been experimenting with the problem, and two of his skeleton-frame paneled houses are shown under construction here. In the upper photograph, note the lack of bearing walls (partitions will be plywood storage units) and in the lower picture, see how simply large wall panels are fitted, in one operation, into the modular framework. There can be little doubt that in time the logic of such a system will result in demands for the benefits of its economies.

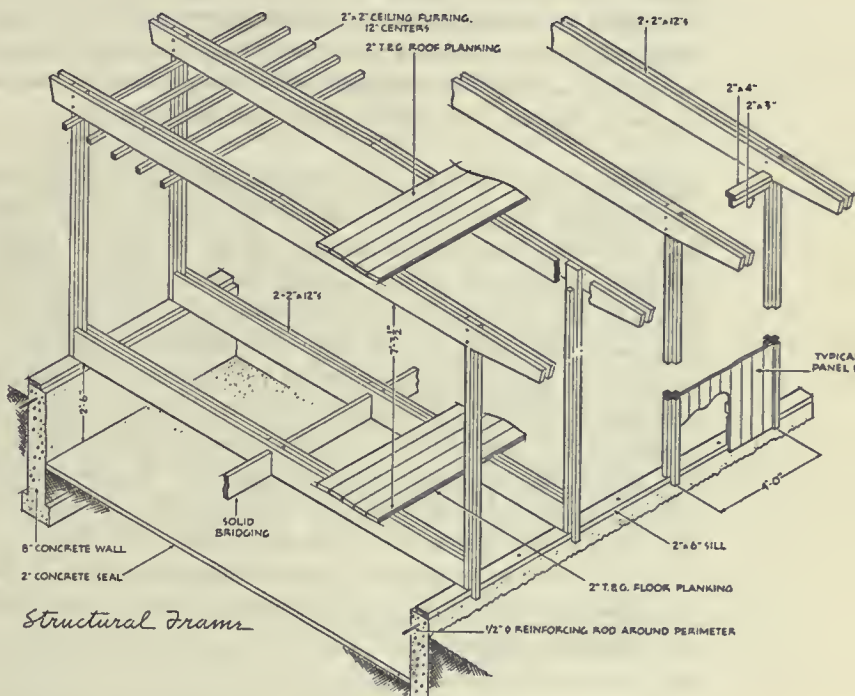


DEDHAM, MASSACHUSETTS

Many architects have been intrigued by the possibilities of simplified construction systems and prefabricated wall panels; few have arrived at as ingenious and logical a solution as Johnson and Whitcomb in this "prototype" house designed as an experiment, built and sold to a young married couple, and ultimately enlarged for them beyond the plan shown. The isometric view of the structural frame at the right and the photo below indicate the basis of the construction system — built-up posts four feet on centers form a cross, into which both exterior and interior panels (with insulation between) fit and can be fastened with no complicated jointing, no need for too-accurate tolerances. Where openings in the wall occur, window panels are fitted in just as simply, with no frames, no small fitted pieces. Roof and floor are of two-inch tongue and groove planking, spanning the four feet between joists without need for double flooring. The plan is most simple, to fit this modular, rectangular grid. Experimental houses of this sort, sometimes expensive in themselves to build, have taught builders much about the advantages and ultimate economies of larger prefabricated parts and simpler detailing.



JOHNSON & WHITCOMB, ARCHITECTS



"So all right," said Mrs. Farragut, "When I build my whitewashed brick house I'll make it a cavity wall and insist that both—what's the word?—wythes—be left exposed as self-finishing materials. I've learned my lesson about that. But I still don't like the looks of these new houses. No one can make me like their appearance." Mrs. Honeywell agreed with her: "I still like my white clapboard New England house—it just appeals to me." But Mrs. Jeremy again disagreed. "You know it's a funny thing," she said. "The more I see of those new houses out at Woods Hole, the more I like them. You get used to them, and after a while the houses we live in begin to look awfully stuffy and old-fashioned."

Again this matter of nostalgia and association and personal taste. Unfortunately, fads and fashions have something to do with it, too. Who is to say that one house is more beautiful than another? What criteria can one set up, in order to judge what beauty in architecture is, and to disassociate it from passing fancies? Something begins to look old-fashioned, but that is usually the result of changing tastes. Let us jump from housing to clothes for a moment, to draw an analogy: is a short dress more or less beautiful than a long one? At one time one or the other seems more attractive to you, but that is usually because styles have changed and one is an accustomed sight, the other a strange sight—for the moment. This doesn't happen in the case of truly good architecture. While popular fancy may suggest that we live in imitation Georgian manor houses one decade and imitation half-timbered Tudor cottages another, the real Georgian house and the real Tudor house remain beautiful objects that tell us of their time because they were right for their time. Why is this? Are there standards to go by and rules to judge by, in evaluating the beauty of the architecture of our own or any other time? We think there are some elementary ones, that have almost been lost sight of in the battle of "styles."

First, *beauty is inherent in a structure*. The beauty of a structure is not an applied thing, but is the result of the whole design—its shape and form, the way it uses its site and adapts itself to its surroundings, the materials it is made of, the voids and solids and patterns, the light and shade it produces of itself. If there is any surface decoration applied (as in the carving of the Greek column capitals) or color or texture added (as in the patterning of brickwork) these things can only accentuate—they can point up and sharpen the beauty that is already there, or they can attempt to conceal a basic awkwardness.

A second general rule is that *beauty derives from the fitness of a building*. Louis Sullivan perhaps over-simplified this fact when he said that form follows function. It isn't that a building which works well for its occupants is automatically beautiful (there are plenty of efficiency experts, but very few really fine architects) but rather that any object, including a building, has to look like what it is in order to give us a real esthetic thrill. A number of recent psychological experiments have pointed this fact up very sharply. It is easier to understand the principle with smaller objects: a hammer, for instance, that looks as though it would swing well in the grip and would give a true wham to the nail head looks very beautiful to the carpenter—really esthetically exciting. A tool designed in a meaningless curve, covered with useless though perhaps beautiful ornament, would leave him cold. In buildings, this matter once again gets confused with association; familiarity with an unfit form may lead us to the

false conclusion that it is a proper form. Undeniably, an imitation Cape Cod cottage symbolizes "home" to many of us, despite its questionable fitness as a form for a 20th century domicile. Mrs. Jeremy was right; we shall have to see and become familiar with many more new houses than most of us so far have, before we regain the innate sense of *beauty in fitness*.

Finally, one other factor in judging the beauty of a house is particularly applicable in our time. *Beauty can come from the use of space*, as well as the use of solid substances. Although space has always been the important thing that an architect plays with, the modern understanding of space relationship is very different from the classical, the medieval, or the Renaissance conceptions. The space-time concept, a philosophical and mathematical discovery of recent times, can be translated very truly into architecture. Space can move and flow; the relationship of one space to another can be a visually and esthetically exciting thing; space can have scale of its own, and an emotional quality. In very different ways people like Wright and Neutra (see Neutra's house on pages 80 to 84) are masters at this art of making space work for them to produce a large part of the beauty of their buildings.

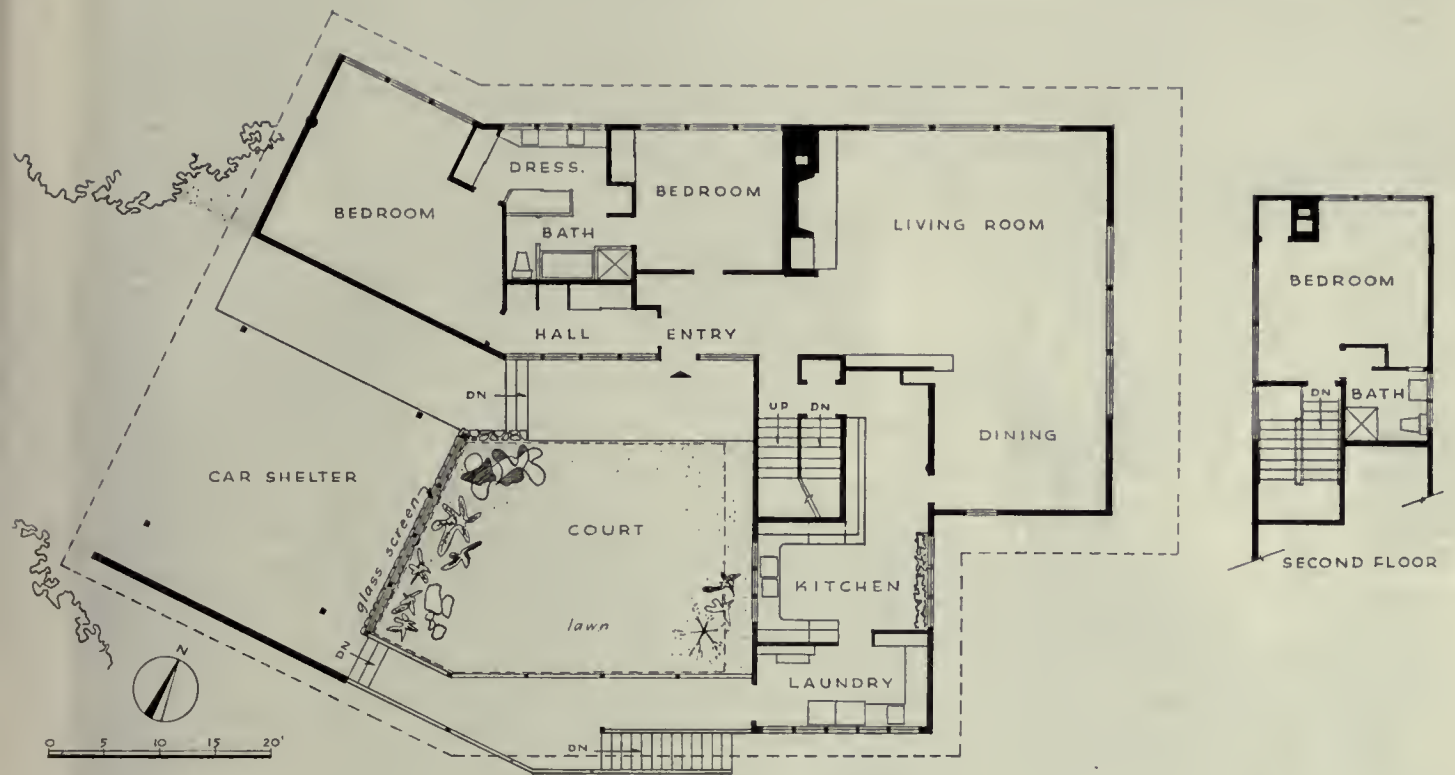
We have not said anything about the academic criteria for beauty in composition—harmony, rhythm, scale, and all the rest. There is nothing fixed or eternal about any such standards; as soon as someone sets up a system of dynamic symmetry or modular scale relationships, someone else breaks all the rules and produce a new work of beauty, in architecture just as in music or painting or the dance. There is beauty in rhythmic repetition, and there is beauty in surprises and contrasts; a modulated softness can be very appealing, and sometimes a sharp harshness can thrill. The increasingly attractive appearance of our residential architecture in the United States cannot be explained or judged on the basis of these maxims. The things to watch for now, and the things that we will become increasingly attracted by are the inherent beauty that we have mentioned, coming from the fitness of the building and the way it moulds and uses space; certain honestly indigenous characteristics that we continue to recognize as true; some personal methods of handling materials and architectural forms that have attracted enough of the younger architects so that they are becoming recognizable as part of our architectural vocabulary.

The pages that follow in this book show houses which were selected for this section not because they are the most beautiful ones in the book; rather because they illustrate trends and tendencies which have become very important in the appearance of the new house. There are certain regional influences, for example. It is possible to say, as a very good architect recently did say, "If I want to build in Massachusetts exactly the same sort of house I would like to build in California, there is no reason I shouldn't do it; with modern heating methods I can justify large glass areas; I can get redwood just as cheaply as any other good siding, and I can melt the snow on a flat roof." And yet there are also valid reasons for regional differences. The Oregon barn has admittedly influenced Belluschi's work (pages 149 and 210). The stony Pennsylvania countryside accounts for some of the flavor of Kahn's Weiss house (pages 232 to 234). The brick and wood, wide-eaved midwest house that grew up with no conscious architectural direction in the last century undoubtedly had some effect on the Schweikher & Elting approach to the Burhans house (pages 229 to 231).

Further than this, the houses that follow also show the sometimes conflicting, sometimes merging results of the two strong personal attitudes toward architecture in recent years: the strict, uncompromising, almost sparse translation of a program into a building (gaining distinction and beauty through bold devices, as the cantilevers in Breuer's house on pages 218 to 220) and the more organic, sometimes romantic designs of those who have been influenced by Frank Lloyd Wright. There are many personal translations that are neither one nor the other of these two extremes, and out of it all begins to emerge an architecture of houses of our own, with an esthetic appeal of its own, with a natural warmth and humanity of its own.



Probably nowhere in the United States has a more marked expression of a natural indigenous "style" been developed than in the Pacific Northwest. In a region bountifully endowed with great timber lands, it is inevitable that the traditional building material should be wood. Coupled with another long-established regional characteristic—the rambling single-story ranch-house type—this has developed an architectural idiom which is singularly appropriate to the environment. Pietro Belluschi has been responsible for some of the most outstanding interpretations of this native expression, having fused it with the vitality of design freed for a contemporary way of living. The house which he designed for Dr. and Mrs. Merle Moore in Portland is an admirable example of this personal yet indigenous quality. In the plan the individual areas—living, sleeping, and service—are distinctly divided, with the house being built around a courtyard. All main rooms face away from the entrance side, with only the kitchen looking out toward the car shelter which serves as the means of approach. From this car shelter (see photographs above and opposite) one has access to the main entrance by means of a brick-paved path sheltered with a wide overhang and to the service entrance on the opposite side of the courtyard.



PIETRO BELLUSCHI, ARCHITECT





Vertical boards and battens of the exterior walls and the pitched roof with wide overhangs (as seen in the photograph at the right) are typical of the residential structures of the region. The large living room window shown in this picture looks out across the hilly site, on which the house is located, toward a view of Mt. Hood, Mt. St. Heleno and the Cascade Range. Window walls of double-thick insulating glass are supplemented by a system of louvers (as shown on the plan on the preceding page) for ventilation. Floors are radiant heated. In the living-dining room (see photograph above), they are covered with cork tile. Interior walls and ceiling are also of wood.



WILMINGTON, DELAWARE

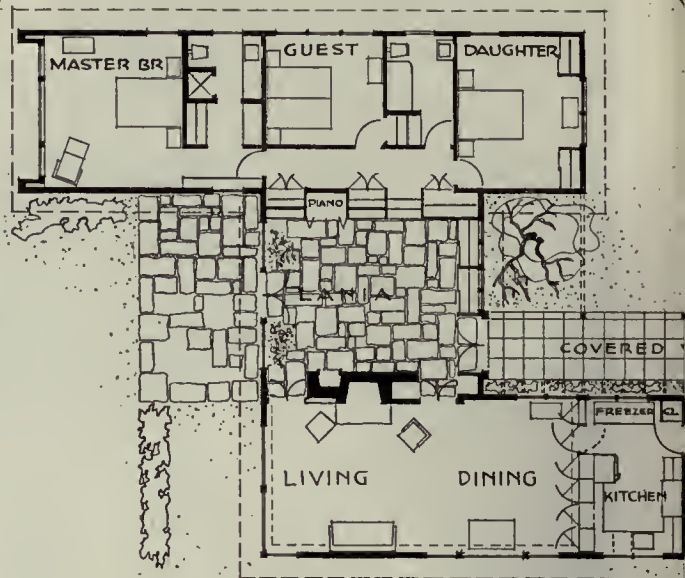


Many of those who advocate a lingering bow to tradition, in various parts of the country, are thinking in terms of superficial historic mannerisms which no longer apply to today's design problems. The early houses on the eastern seaboard, for instance, had small windows (for protection, and because glass was not available); certainly this would not be a "tradition" to continue to emulate. Much more reasonable is the recognition of certain matters of scale; of roof slope which, because of the climate, is as desirable today as it ever was; of materials which blend with the landscape; of a plan which answers indigenous needs rather than imposing a rigid pattern. This approach to architecture — the calm, natural sort of design which seems to *fit* where it is — is exemplified in the work of the Homseys, husband-and-wife team, in Delaware. The house for the Jaryl D. Siners, on this and the following two pages, is an illustration of this non-traditional and yet non-blattant design attitude: a house on rolling farm land that obviously belongs on rolling farm land in this region.



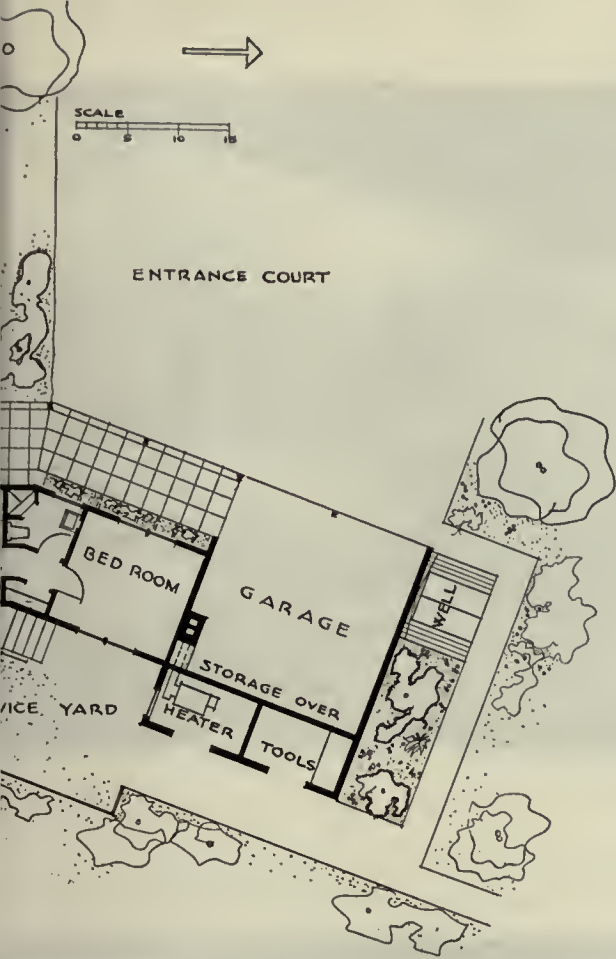
WILMINGTON, DELAWARE, *continued*

The plan of the Siner house is as informal and engaging as its appearance. A covered way (photograph on preceding page) leads from the garage to the front door, which takes one into a connecting link (comparable to the more traditional "breeze-way" — here glass enclosed) between the bedroom wing and the living-dining space. The photograph below shows the other side of this "lanai," and at the bottom of the next page is a view showing the steps from it to the bedroom corridor. Notice the folding doors between the bookshelves which conceal a small piano. There is much built-in storage space in the house; the upper picture on the next page shows how panels at the end of the dining room open to disclose drawer and shelf space for many special items. The house is of conventional wood stud construction, with interior finishes either plaster or birch plywood and exterior siding of redwood (which now seems to have become an "indigenous" material to all parts of the country!). Floors, over the concrete slab which holds the radiant heat pipes, are either flagstone (as in the entrance court) or asphalt tile.



VICTORINE and SAMUEL HOMSEY, ARCHITECTS

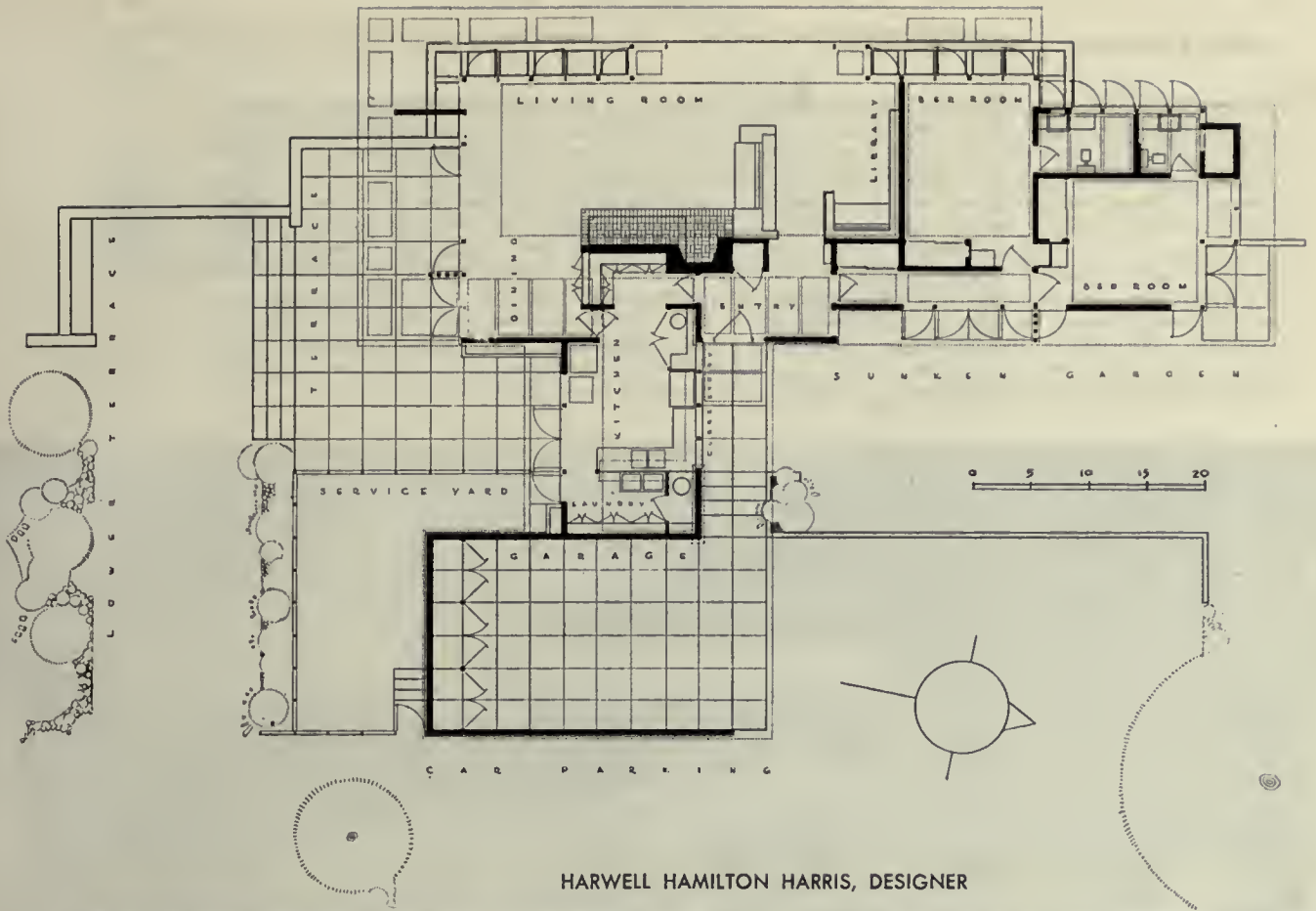




LOS ANGELES, CALIFORNIA

The equitable climate of Southern California and the natural beauty of the rugged landscape, plus the lush growth of the tropical vegetation which has been brought into the area, have had a significant effect on the design of houses in this region. Added to these factors have been strong influences from several designers who, around the turn of the century, developed a local "style" highly original, adapted to climatic requirements, and using local materials such as native redwood. Among those who have been responsible for the further evolution of a regional tradition Harwell Harris, the designer of this house for Mr. and Mrs. Jerome Share, is one of the most capable and sensitive. The plan explains itself: the entry from the garage past the sunken garden (picture at right) leads one ahead into the library and thence to the living room, to the left into the kitchen, or to the right to the bedroom corridor. It is in the subtle expression of that plan that the design mastery becomes apparent: notice, for instance, the three-board band above the head of the doors and windows, which, in this picture at the right, is a crown for the exterior redwood siding, and which, as the pictures below indicate, continues into the house to give scale to the interiors and a relationship to the outside. Where the overhangs, to the west and south, are especially wide they are pierced with deep wells to let through the sky light and exclude the sunlight. Construction is modular, with vertical battens marking the three-foot grid on the exterior.





HARWELL HAMILTON HARRIS, DESIGNER

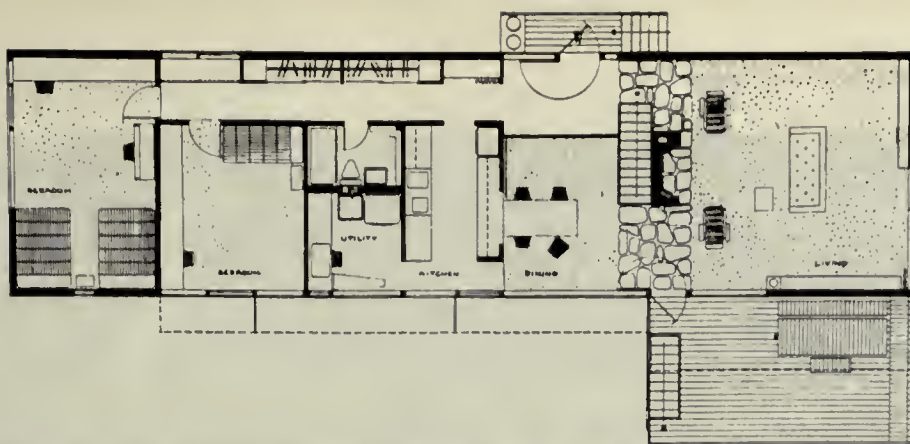


NEW CANAAN, CONNECTICUT

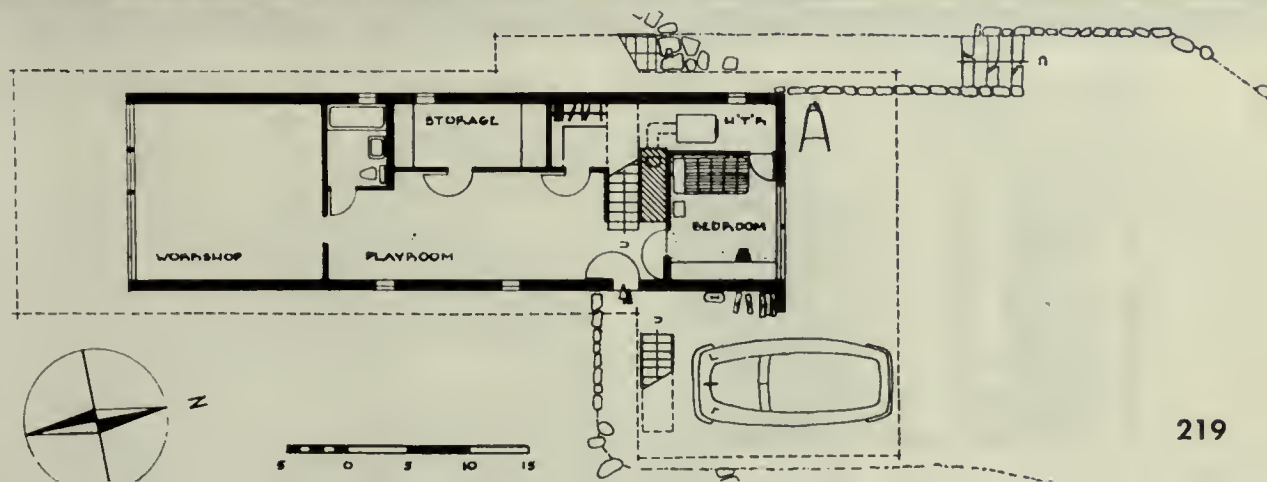
Along with the influences of regional characteristics on residential architecture in the United States, there have been strong personal forces helping to shape the design forms with which we are becoming familiar. Among the several architects from abroad who have fitted themselves and their work to American needs, Marcel Breuer is one of the most influential. The house originally built for himself in New Canaan, pictured on these pages, demonstrates all of the logic in planning and structure, the refusal to compromise in any way with tradition, and the highly individual design ability which transforms a pierced wooden cube perched on a concrete-block pedestal into a thing of

beauty and refinement. Here Breuer uses a cantilever on all four sides of the house; the main house above (see plan at the right) lightly overhangs the "above-grade basement" front and back, but with a ten-foot abandon at the ends. Then, on the northeast corner, a porch (photo below) is suspended by steel cables and an outside stair is hung from it. The plan of the upper floor of the house is very simple — the living room occupies one end of the floor, the main bedroom the other; in between, along a corridor lined with storage units, dining room, kitchen-utility room, and the smaller bedroom all face east, their windows protected by a continuous "eyebrow."





MARCEL BREUER, ARCHITECT



NEW CANAAN, CONNECTICUT, *continued*

The almost stark simplicity of Breuer's approach to design is as apparent in the interiors as in the exterior. The photograph below looks from the dining room past the fireplace wall into the living room. Ahead is the north wall, painted a cobalt blue while other walls are white. The bluestone floor used as fireplace hearth continues across the house at this point; beyond can be seen the Haitian matting which covers the living-room floor. At the bottom of the page is a view from the dining room through the pass-counter, into the kitchen. The house was planned for servant-less entertaining, and the centrally located kitchen is easily accessible through doorless openings.

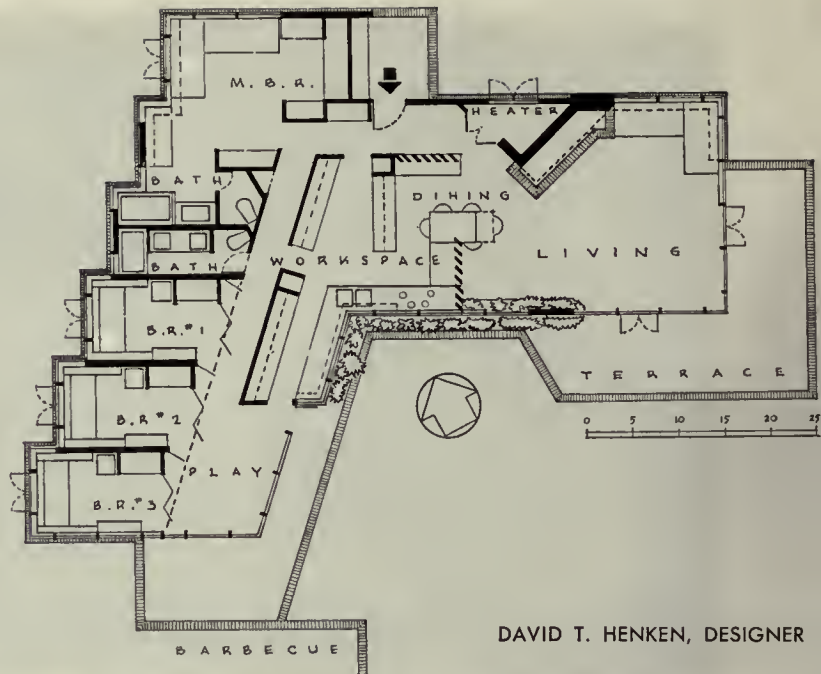


PLEASANTVILLE, NEW YORK



PLEASANTVILLE, NEW YORK, *continued*

Aside from the importance of regional factors and the freshening and revitalizing influences from abroad, the strongest thrust toward an appropriate contemporary architecture in the United States has come from Frank Lloyd Wright, and now from the many young people who have worked under him. What Wright has taught these people (such as David Henken, whose Brandon house is illustrated here) is an organic use of materials, fitted to and following the lines of the structure, as well as the site; roof forms which sweep over and adapt themselves to the shape of the building; continual changes in scale and degree of openness, depending on the size and use of the space. The house for Mr. and Mrs. Herbert Brandon and their two small sons is in a cooperative community for which the site planning was done by Frank Lloyd Wright. The plan centers around a central kitchen "workspace" (upper left picture on facing page) conveniently located and adjacent to the children's play area. The three small bedrooms, furnished with beds convertible to day-time sofas and built-in storage units, open into this play space by the use of folding doors, as the picture at the upper right on the next page shows. Clerestories add light and ventilation to bedrooms and bath. The living room gains great sweep and openness through a roof form which cantilevers out over the corner looking to the south.



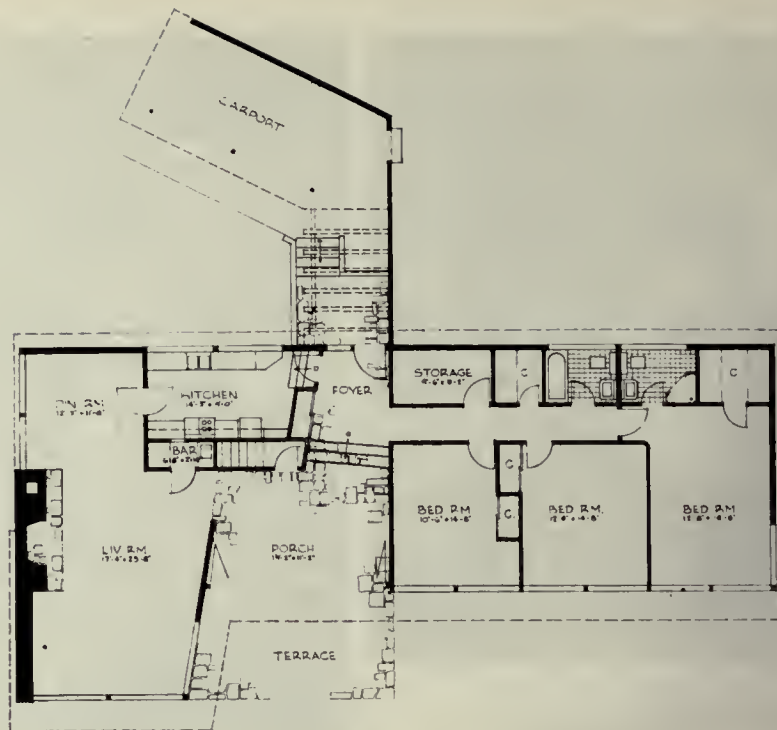
DAVID T. HENKEN, DESIGNER





CANDLEWOOD LAKE, CONN.

House design today, with its openness, its unashamed use of natural materials, its adaptation to needs and the site, does not in any sense result in a stereotyped answer. The house for Mr. and Mrs. Sherwin S. Levey, designed by William Lescaze, well indicates this fact. The stone end wall of the living room, continuing on beyond the fireplace which it houses, frames the large dining room window. It is a highly personal touch in an esthetic sense, and a very practical way to insulate against the hot western sun, in a functional sense. The house plan is divided by a stone-paved loggia, leading into the house from the carport and opening wide to the view and the sun by a device of angling the living room wall. All bedrooms and the living room also face south toward the lake view. The structure is wood frame, with exterior siding of redwood. Heating is by forced warm air — a quickly responding system for a house which is used, as this one is, for summer living and winter weekends.

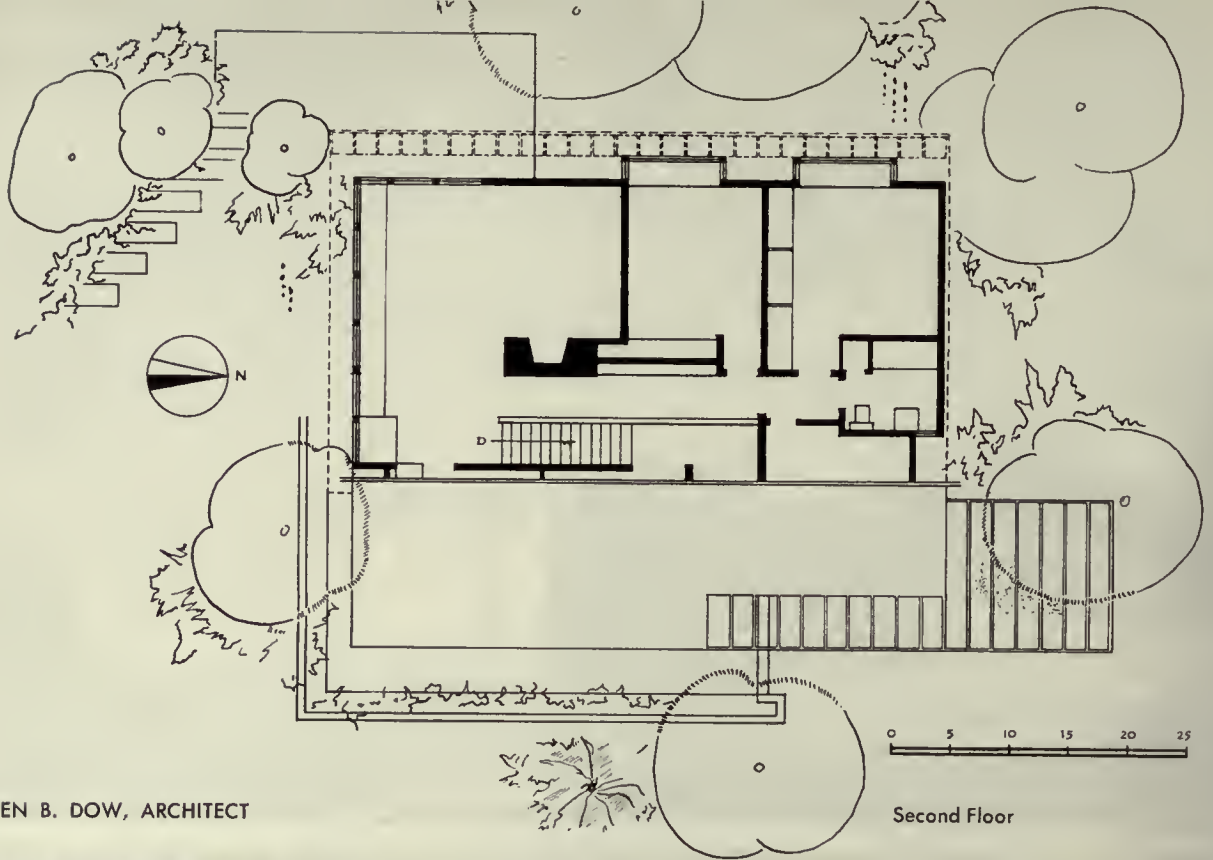


SCALE IN FEET
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WILLIAM LESCAZE, ARCHITECT



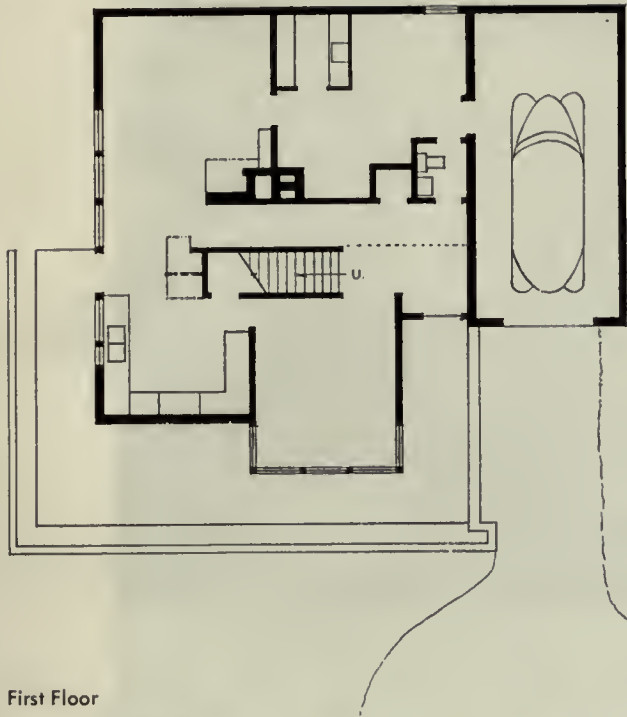




ALDEN B. DOW, ARCHITECT



MIDLAND, MICHIGAN



First Floor

It was in the midwest where the first impact of Frank Lloyd Wright's unique design talent was felt. Among the most successful of those influenced by Wright, going on independently since those influences, is Alden Dow, who has made his own personal contribution to the architecture of the region. Unconventional but completely logical is the plan of this house for Dr. and Mrs. Don Irish. The rooms having the greatest activity are located on the first floor, with the kitchen opening to the game room so that there can be play supervision while meals are being prepared. The dining room is given a sense of airiness by having its ceiling raised into the second floor. The generous living room occupies almost half of the upper floor, and gains added spaciousness with its ceiling following the pitch of the roof and glass walls on two sides (see photograph below); it is further extended by glass doors opening to the terrace. Separated from the living area, and approached through a balcony which overlooks the dining room, are the two bedrooms and bath. Built on the side of a hill the house is related to the sloping site by the pitch of the roof, as shown in the photograph below, left.





In Michigan house (continued from preceding page),
trellis carries out roof line on entrance side, above.
Below, two-story dining room as seen from the balcony.



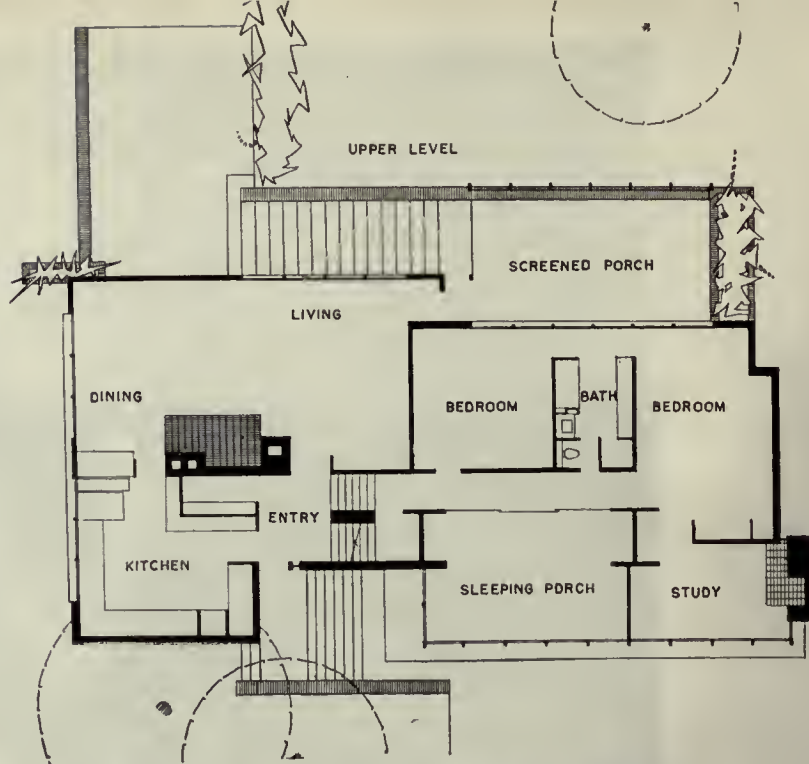
PEORIA, ILLINOIS

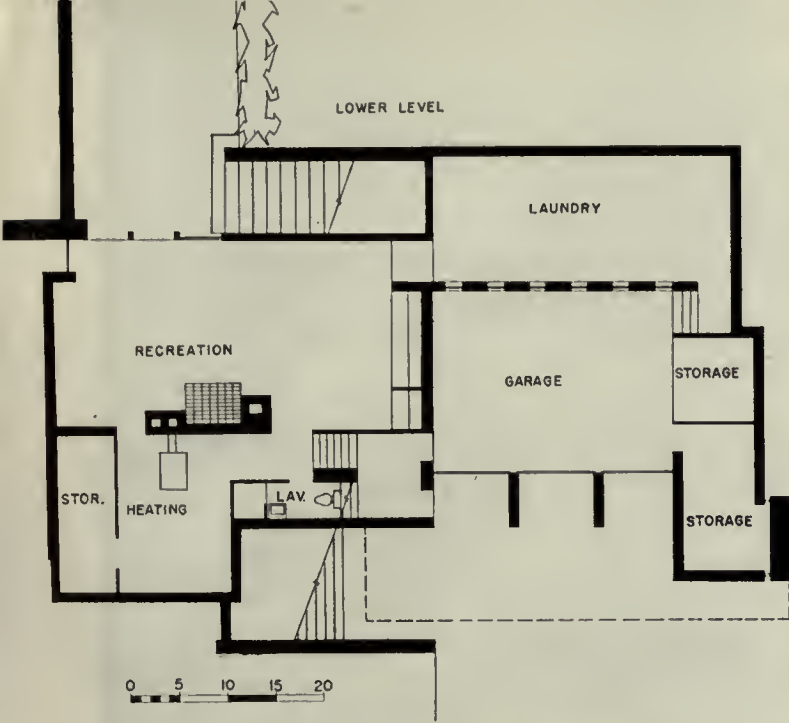
Among the firms practicing in the Chicago area, Paul Schweikher and Winston Elting have made an important, highly personal design contribution in recent years. Influenced by the freedom from tradition and the peculiar needs induced by the climate, which were recognized so well by Wright and others early in the century, houses of theirs such as the one for Dr. and Mrs. E. C. Burhans here pictured strike a contemporary note of their own. The low, rambling house adjusts to a narrow lot; faces a river view.



PEORIA, ILLINOIS, *continued*

The Burhans house fits well not only its narrow lot, but a sloping site which falls off steeply to a bluff at one side. As the plan of the lower level indicates, the garage is under the house (see lower picture on preceding page) and from it an interior stair, as well as the wide, inviting outside steps (shown below) lead up to the entry. On the upper floor all principal rooms face the view, with a screened porch thrusting out from the house, lining up with another wide flight of steps which go down to a terrace and an adjacent indoor recreation room on the lower level. The roof pitch is such that both the living-dining room (lower photo on facing page) and the kitchen (upper photo on that page) gain light through large glass areas above normal window height. The skillful combination of wood farms and brick set in an unconventional pattern is apparent in both the interiors of the house and such exterior details as the overhang of the sleeping porch and study which project over the garage entrance (photo below). Here again choice and handling of materials, rather than superficial tricks of design, give a regional and at the same time a personal character to the architecture.





SCHWEIKER & ELTING, ARCHITECTS





NORRISTOWN, PENNSYLVANIA

An abundant supply of local stone was largely responsible for the regional flavor imparted to Pennsylvania architecture by the early builders, both in the barns and houses. Availability of this local building stone has also considerably influenced modern work in the region. Strictly contemporary forms combined with inspired utilization of this natural material have achieved beauty equal to, and in some instances surpassing, the work of earlier periods. Mr. and Mrs. Morton Weiss, for whom Louis Kahn designed this house in Norristown, have a love for the countryside with its farms and Pennsylvania Dutch barns, and a desire for informal country living. Their site is a hill-top one with distant views of the farming country in all directions. The plan is basically rectangular, indented at the center to create an entrance court and a winter sun court — and also to provide a separation between the sleeping and living quarters. Utility and circulation elements are pulled together towards the center of the rectangle. The inverted pitched roof shelters two floor levels, resulting in various ceiling heights — from seven feet at the entrance to thirteen feet on the south side of the living room (see photo at bottom of opposite page). One of Mr. Kahn's personal innovations, which combines pleasantly with the native stone and his entire design concept, is the reversible double-hung sash. These make possible alternating arrangements of opaque and transparent wall panels, as shown on the facing page.

LOUIS I. KAHN, ARCHITECT





Construction is split posts with outriggers between to support the roof overhang above, and the sunshade below. Curtain walls of selected native sandstone, which had been exposed to the weather on the surface of a local quarry, were erected rough without dressing. Cypress sheathing used both inside and out.

Built-in cabinets (see dining room below) and some of the furniture were designed by architect Louis Kahn. A radiant heating system is installed in the concrete floor slab, and in walls and ceilings. Hall, living and dining room floors are covered with slate; the depressed fireplace hearth with moulded clay tile.



INDEX

In the index that follows, architects and designers are listed with their names in capital letters. Under their names are listed the owners, the locations, and the photographers for the houses they designed. Localities for houses shown in the book are listed alphabetically in upper and lower case letters.

AIN, GREGORY, JOSEPH JOHNSON and ALFRED DAY Wilfong house, Altadena, California Photos: Julius Shulman	132	Chappaqua, New York; Architects Associated (Kotz, Waisman, Blumenkranz, Stein, Weber), architects	100
Alexandria, Virginia; Charles M. Goodman, architect	20	CHIARELLI & KIRK Balch house, Seattle, Washington Photos: Larry Navak	74
Alexandria, Virginia; Charles M. Goodman, architect	62	McLean house, Bellevue, Washington Photos: Charles R. Pearson	90
Altadena, California; Gregory Ain, Joseph Johnson and Alfred Day, architects	132	CLARK & FREY Frey house, Palm Springs, California Photos: Julius Shulman	136
Andover, Massachusetts; Bernard Kessler, architect	182	COCHRAN, ALEXANDER S. Cachran house, Baltimore, Maryland Photos: Andre Kertesz; Katherine Ford	22
ARCHITECTS ASSOCIATED (Katz, Waisman, Blumenkranz, Stein, Weber) Dretzin house, Chappaqua, New York Photos: Ezra Staller, Pictor	100	Colorado Springs, Colorado; Jan Ruhtenberg, designer	17
Armonk, New York; Edgar Tafel, architect	44	Colorado Springs, Colorado; Jan Ruhtenberg, designer	204
ARMSTRONG, HARRIS Armstrong house, Jefferson County, Missouri Photos: Robert Frei	54	COMPTON, W. DANFORTH Franke house, Big Hill, Kentucky Photos: W. Danforth Campton	126
Atlanta, Georgia; Stevens & Wilkinson, architects	164	CORBETT, MARIO Cracker house, Sausalito, California Photos: Ernest Braun	10
Baltimore, Maryland; Alexander S. Cochran, architect	22	Dallas, Texas; DeWitt & Swank, architects	76
BEIDLER, PAUL Rose house, Easton, Pennsylvania Photos: Lionel Freedman, Pictor	180	DAVIDSON, J. R. Davidson house, Los Angeles, California Photos: Julius Shulman	42
BELLUSCHI, PIETRO Burkes house, Portland, Oregon Photos: Roger Sturtevant	149	Dedham, Massachusetts; Johnson & Whitcomb, architects	207
Moore house, Portland, Oregon Photos: Roger Sturtevant	210	Denver, Colorado; Victor Harnbein, architect	205
Belvedere, California; Francis Joseph McCarthy, architect	98	DEWITT & SWANK American Home Realty house, Dallas, Texas Photos: Ulric Meisel, Photo Associates	76
Belvedere, California; John Funk, architect	88	DICKINSON, WOODBRIDGE, Jr. & LAWRENCE TEST Dickinson house, Pasadena, California Photos: Julius Shulman	146
Bellevue, Washington; Chiarelli & Kirk, architects	90	DOW, ALDEN B. Irish house, Midland, Michigan Photos: Elmer L. Astleford	226
Bensenville, Illinois; George Fred Keck — William Keck, architects	176	DRAKE, BLAINE Kumler house, Phoenix, Arizona Photos: Julius Shulman	203
Beverly Hills, California; Douglas Honnold, architect	140	Owen house, Phoenix, Arizona Photos: Julius Shulman	158
Big Hill, Kentucky; W. Danforth Campton, designer	126	DRAKE, GORDON Miller house, Carmel, California Photos: Morley Baer	144
BOGNER, WALTER F. and CARLETON R. RICHMOND, Jr. Schwann house, Lincoln, Massachusetts Photos: Lionel Freedman, Pictor	40	Spillman house, Los Angeles, California Photos: Julius Shulman	189
BREUER, MARCEL Breuer house, New Canaan, Connecticut Photos: John Carcoran; P. E. Guerrero	218		
Geller house, Lawrence, Long Island, New York Photos: Ezra Staller, Pictor	26		
Candlewood Lake, Connecticut; William Lescaze, architect	224		
Carmel, California; Gordon Drake, designer	144		
Carmel, California; Henry Hill, designer	58		

EAMES, CHARLES			
Eames house, Pacific Palisades, California			
Photos: Charles Eames	186		
Easton, Pennsylvania; Paul Beidler, architect	180		
ESHERICK, JOSEPH			
Holt house, Stockton, California			
Photos: Roger Sturtevant	161		
Walker house, Lake Tahoe, California			
Photos: Roger Sturtevant	52		
FUNK, JOHN			
Kirby house, Belvedere, California			
Photos: Roger Sturtevant	88		
GLASS, J.			
Glass house, San Antonio, Texas			
Photos: Photo Associates	168		
GOODMAN, CHARLES M.			
Hollin Hills, Alexandria, Virginia			
Photos: Robert C. Lautman	62		
Sevoreid house, Alexandria, Virginia			
Photos: Rodney McCay Morgan	20		
Great Neck, Long Island, New York; Antonin Raymond and L. L. Rado, architects	104		
Greenwich, Connecticut; Edward D. Stone, architect; Karl J. Holzinger; Roy S. Johnson, Associates	31		
Hanover, New Hampshire; E. H. and M. K. Hunter, architects	114		
HARRIS, HARWELL HAMILTON			
Loeb house, Redding, Connecticut			
Photos: Andre Kertesz	173		
Share house, Los Angeles, California			
Photos: Maynard Parker	216		
HENKEN, DAVID T.			
Brandon house, Pleasantville, New York			
Photos: Andre Kertesz	221		
Highland Park, Illinois; L. Morgan Yost, architect	96		
HILL, HENRY			
Cosmas house, Kentfield, California			
Photos: Morley Baer	92		
Hill house, Carmel, California			
Photos: Roger Sturtevant	58		
Hillsborough, California; Clarence W. Mayhew, architect	128		
HOMSEY, VICTORINE and SAMUEL			
Siner house, Wilmington, Delaware	213		
HONNOLD, DOUGLAS			
Greene house, Beverly Hills, California			
Photos: Julius Shulman	140		
Harkness house, Los Angeles, California			
Photos: Julius Shulman	49		
HORNBEIN, VICTOR			
House in Denver, Colorado			
Photos: Good Housekeeping	205		
Houston, Texas; Mac Kie & Kamroth, architects	71		
HUNTER, E. H. and M. K.			
Murtagh house, Hanover, New Hampshire			
Photos: Ezra Stoller, Pictor	114		
Jefferson County, Missouri; Harris Armstrong, architect	54		
JOHNSON, PHILIP C.			
Johnson house, New Canaan, Connecticut			
Photos: Lionel Freedman, Pictor; Arnold Newman	8		
JOHNSON & WHITCOMB			
House in Dedham, Massachusetts			
Photo: Dearborn-Massar	207		
JONES, A. QUINCY, Jr.			
Huistendahl house, San Diego, California			
Photos: Robert C. Cleveland; Maynard Parker, Modern Photography	68		
KAHN, LOUIS I.			
Weiss house, Norristown, Pennsylvania			
Photos: John Ebstel	232		
KAMPHOEFFNER HENRY L.; GEORGE MATSUMOTO, ASSOCIATE			
Kamphoeffer house, Raleigh, North Carolina			
Photos: Andre Kertesz	154		
Kansas City, Missouri; Runnells, Clark, Waugh & Matsumoto, architects	134		
KASSLER, KENNETH			
Two houses in Princeton, New Jersey	206		
KECK, GEORGE FRED			
Fagen house, Lake Forest, Illinois			
Photos: Hedrich-Blessing Studio	85		
KECK, GEORGE FRED — WILLIAM KECK			
Spence house, Bensenville, Illinois			
Photos: Hedrich-Blessing Studio	176		
Kelleys Island, Ohio; Ernst Payer, architect	56		
Kentfield, California; Henry Hill, designer	92		
KESSLER, BERNARD			
House in Andover, Massachusetts			
Photos: Joseph W. Molitor	182		
Kirkwood, Missouri; Wischmeyer & Lorenz, architects	39		
KNOWLTON, ALEXANDER			
Roan house, Orlando, Florida			
Photos: Tom Leonard	66		
Lake Forest, Illinois; George Fred Keck, architect	85		
Lake Tahoe, California; Joseph Esherick, architect	52		
LANGHORST, FRED			
Ker house, San Rafael, California			
Photos: Roger Sturtevant	14		
Lawrence, Long Island, New York; Marcel Breuer, architect	26		
LESCAZE, WILLIAM			
Levey house, Candlewood Lake, Connecticut			
Photos: Ben Schnall	224		
Lexington, Massachusetts; Hugh Stubbins, Jr., architect	46		
Lincoln, Massachusetts; Walter F. Bogner and Corlton R. Richmond, Jr., architects	40		

LITTLE, ROBERT M.		Peoria, Illinois; Schweikher & Elting, architects	229
Little house, Miami, Florida		Phoenix, Arizona; Blaine Droke, architect	158
Photos: Rudi Rado	36	Phoenix, Arizona; Blaine Droke, architect	203
Los Angeles, California; J. R. Dovidson, designer	42	Pleasantville, New York; David T. Henken, designer	221
Los Angeles, California; Gordon Drake, designer	189	POLEVITZKY, IGOR	
Los Angeles, California; Harwell Hamilton Harris, designer	216	Heller house, Miami, Florida	
Los Angeles, California; Douglas Honnold, architect	49	Photos: Rudi Rado	170
Los Angeles, California; Carl Maston, architect	123	Portland, Oregon; Pietro Belluschi, architect	149
Los Angeles, California; Raphael Soriano, architect	196	Portland, Oregon; Pietro Belluschi, architect	210
Los Angeles, California; Rodney A. Walker, designer	194	Princeton, New Jersey; Kenneth Kassler, architect (two houses)	206
LYNDON, MAYNARD		RADO, L. L. (see Raymond, Antonin)	
Lyndon house, Malibu, California		Raleigh North Carolina; Henry L. Komphoefner, architect;	
Photos: Maynard Lyndon	200	George Motsumoto, associate	154
MAC KIE & KAMRATH		RAYMOND, ANTONIN & L. L. RADO	
Frank Shorp Company house, Houston, Texas		Krakauer house, Great Neck, Long Island, New York	
Photos: Dorsey & Peters; Hence Griffith	71	Photos: L. L. Rado	104
Malibu, California; Maynard Lyndon, architect	200	Rosen house, Great Neck, Long Island, New York	
MASTON, CARL LOUIS		Photos: L. L. Rado	104
Maston house, Los Angeles, California		Redding, Connecticut; Horwell Hamilton Harris, designer	173
Photos: Julius Shulman	123	RICHMOND, CARLETON R., Jr. (see Bogner, Walter F.)	
MAYHEW, CLARENCE W.		RUHTENBERG, JAN	
Hale house, Hillsborough, California		Howbert house, Colorado Springs, Colorado	
Photos: Roger Sturtevant	128	Photos: Guy Burgess	204
McCARTHY, FRANCIS JOSEPH		Ruhtenberg house, Colorado Springs, Colorado	
Rowley house, Belvedere, California		Photos: Guy Burgess	17
Photos: Roger Sturtevant	98	RUNNELLS, CLARK, WAUGH & MATSUMOTO	
Miami, Florida; Robert M. Little, architect	36	Clark house, Kansas City, Missouri	
Miami, Florida; Igor Plevitzky, architect	170	Photos: Gene Hook	134
Midland, Michigan; Alden B. Dow, architect	226	San Antonio, Texas; J. Gloss, designer	168
Minneapolis, Minnesota; Thorshov & Cerny, architects	106	San Diego, California; A. Quincy Jones, Jr., architect	68
Minneapolis, Minnesota; Thorshov & Cerny, architects	120	San Pedro, California; Sumner Spaulding and John Rex, architects	116
Montecito, California; Richard J. Neutra, architect	80	San Rafael, California; Fred Langhorst, architect	14
NEUTRA, RICHARD J.		Sausalito, California; Morio Corbett, architect	10
Tremaine house, Montecito, California		SCHWEIKHER & ELTING	
Photos: Julius Shulman	80	Burhans house, Peoria, Illinois	
New Canaan, Connecticut; Marcel Breuer, architect	218	Photos: Hedrich-Blessing Studio	229
New Canaan, Connecticut; Philip C. Johnson, designer	8	Upton house, Scottsdale, Arizona	
Norristown, Pennsylvania; Louis I. Kahn, architect	232	Photos: Julius Shulman	166
Oklahoma City, Oklahoma; Robert W. Vahlberg (Vahlberg, Palmer, Vahlberg), architect	13	Scottsdale, Arizona; Schweikher & Elting, architects	166
Orlando, Florida; Alexander Knowlton, architect	66	Seattle, Washington; Chiarelli & Kirk, architects	74
Pacific Palisades, California; Charles Eames, designer	186	Seattle, Washington; Paul Thiry, architect	130
Palm Springs, California; Clark & Frey, architects	136	Shreveport, Louisiana; Samuel G. & William B. Wiener, architects	178
Posadero, California; Woodbridge Dickinson, Jr., and Lawrence Test, architects	146	Shreveport, Louisiana; William B. Wiener, architect	16
PAYER, ERNST		SORIANO, RAPHAEL	
Jones house, Kelleys Island, Ohio		Case Study house, Los Angeles, California	
Photos: Harry Ittner	56	Photos: J. Reed	196
		SPAULDING, SUMNER and JOHN REX	
		Ekdale house, San Pedro, California	
		Photos: Julius Shulman	116

STEVENS & WILKINSON					
	Wilkinson house, Atlanta, Georgia				
	Photos: William M. Branham	164			
	Stockton, California; Joseph Esherick, architect	161			
	Stockton, California; Wurster, Bernardi & Emmons, architects	111			
STONE, EDWARD D.: KARL J. HOLZINGER, ROY S. JOHNSON, ASSOCIATES					
	Grant house, Greenwich, Connecticut				
	Photos: Lionel Freedman	31			
	Rayburn house, White Plains, New York				
	Photos: Lionel Freedman	192			
STUBBINS, HUGH, Jr.					
	Stubbins house, Lexington, Massachusetts				
	Photos: Ezra Stoller, Pictor	46			
TAFEL, EDGAR					
	Lindstrom house, Armonk, New York				
	Photos: Lionel Freedman; Robert Meserve	44			
TEST, LAWRENCE (see Dickinson, Woodbridge, Jr.)					
THIRY, PAUL					
	McDonald house, Seattle, Washington				
	Photos: Charles R. Pearson	130			
THORSHOV & CERNY					
	Blackmun house, Minneapolis, Minnesota				
	Photos: Photography, Inc.	120			
	Challman house, Minneapolis, Minnesota				
	Photos: Photography, Inc.	106			
VAHLBERG, ROBERT W. (VAHLBERG, PALMER, VAHLBERG)					
	Chapman house, Oklahoma City, Oklahoma				
	Photos: Meyers Photo Shop			13	
WALKER, RODNEY A.					
	Walker house, Los Angeles, California				
	Photos: Julius Shulman			194	
	White Plains, New York; Edward D. Stone, architect; Karl J. Holzinger and Roy S. Johnson, associates			192	
WIENER, SAMUEL G. & WILLIAM B.					
	Gamm house, Shreveport, Louisiana				
	Photos: Ulric Meisel, Photo Associates			178	
WIENER, WILLIAM B.					
	Davidson house, Shreveport, Louisiana				
	Photos: Ulric Meisel, Photo Associates			16	
	Wilmington, Delaware; Victorine and Samuel Homsey, architects			213	
WISCHMEYER & LORENZ					
	Fitz-Gerald house, Kirkwood, Missouri				
	Photos: Lorenz; Lawrence			39	
WURSTER, BERNARDI and EMMONS					
	Smith house, Stockton, California				
	Photos: Roger Sturtevant			111	
YOST, L. MORGAN					
	Deno house, Highland Park, Illinois				
	Photos: Nowell Ward & Associates			96	

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